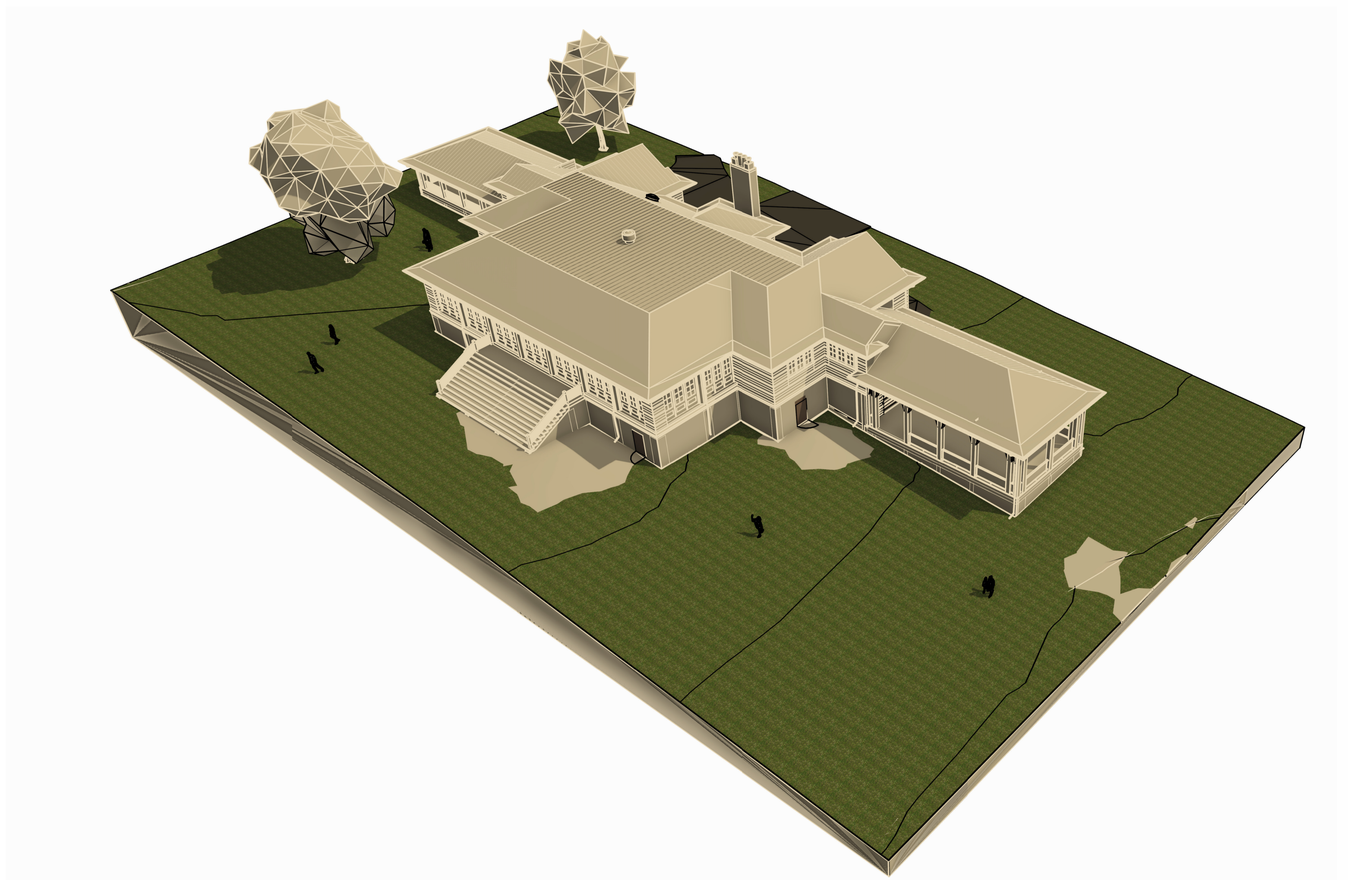
MECHANICAL DRAWING LIST

M0.00	COVER SHEET
M0.01	LEAD SHEET (DRAWING LIST, LEGEND & NOTES)
M1.00	BASEMENT DEMOLITION DRAINAGE PLAN - PHASE 1
M1.01	LEVEL 1 DEMOLITION DRAINAGE PLAN - PHASE 1
M1.05	BASEMENT DEMOLITION PLUMBING PLAN - PHASE 1
M1.06	LEVEL 1 DEMOLITION PLUMBING PLAN - PHASE 1
M1.10	BASEMENT PROPOSED DRAINAGE PLAN - PHASE 1
M1.11	LEVEL 1 PROPOSED DRAINAGE PLAN - PHASE 1
M1.15	BASEMENT PROPOSED PLUMBING PLAN - PHASE 1
M1.16	LEVEL 1 PROPOSED PLUMBING PLAN - PHASE 1
M2.10	BASEMENT PROPOSED FIRE PROTECTION PLAN - PHASE 1
M2.12	LEVEL 1 PROPOSED FIRE PROTECTION PLAN - PHASE 1
M2.13	ATTIC LEVEL PROPOSED FIRE PROTECTION PLAN - PHASE 1
M3.00	BASEMENT DEMOLITION HVAC PLAN - PHASE 1
M3.01	LEVEL 1 DEMOLITION HVAC PLAN - PHASE 1
M3.10	BASEMENT PROPOSED HVAC PLAN - PHASE 1
M3.11	LEVEL 1 PROPOSED HVAC PLAN - PHASE 1
M3.12	ATTIC LEVEL PROPOSED HVAC PLAN - PHASE 1
M3.20	HVAC SECTION
M3.50	HVAC ISO 3D VIEW
M4.10	BASEMENT PROPOSED HYDRONIC PLAN - PHASE 1
M4.11	LEVEL 1 PROPOSED HYDRONIC PLAN - PHASE 1
M5.00	MECHANICAL DETAILS
M5.01	MECHANICAL DETAILS
M5.02	MECHANICAL CONTROLS
M5.03	MECHANICAL CONTROLS
M5.10	MECHANICAL SCHEMATICS
M6.00	MECHANICAL EQUIPMENT SCHEDULE



Project **HIGH PARK NATURE AND VISITOR'S CENTER**
Issue **ISSUED FOR TENDER**
Issue Date **2025/02/25**

Owner
Project Address **375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3**
Project Number **22-142**

MANTECON PARTNERS

STRUCTURAL MECHANICAL PROCESS ELECTRICAL CIVIL
ENGINEERS AND PROJECT MANAGERS

15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)648-0373 www.manteconpartners.com

GENERAL NOTES

1. REFER TO SITE AND OWNER INSTRUCTIONS FOR PHASING AND STAGING.
2. THE CONTRACTOR SHALL CO-ORDINATE WITH THE STRUCTURAL TO PROVIDE OPENINGS AND SLEEVES THROUGH STRUCTURAL ELEMENTS WHERE REQUIRED.
3. PENETRATIONS OF CONCRETE SHALL BE SAW-CUT OR CORE BORED-IMPACT HAMMERS ARE NOT ALLOWED. SEAL ALL DUCTWORK & SLEEVES TO PREVENT LEAKAGE THRU FLOOR.
4. DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS, AND ON SITE INSPECTIONS.
5. MECHANICAL, DIV. 2-14 AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID INTERFERENCE'S BETWEEN PIPING, DUCTWORK, CONDUIT, LIGHTING FIXTURES, ETC.
6. WORK SHALL BE CO-ORDINATED THROUGH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY EQUIPMENT, DUCTWORK AND CONTROLS. CO-ORDINATE WITH ARCHITECTURAL ELEVATIONS FOR ARCHITECTURAL, MECHANICAL, AND ELECTRICAL SPACE ALLOCATIONS.
7. PROPERLY SUPPORT CEILING MOUNTED EQUIPMENT AND ANY OTHER EQUIPMENT INDEPENDENT OF CEILING SUPPORT SYSTEM. REFER TO ARCHITECTURAL DETAILS AND CO-ORDINATE WITH STRUCTURAL TRADE.
8. REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT. CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO SUIT.
9. REVIEW ARCHITECTURAL, ELECTRICAL, AND STRUCTURAL DRAWINGS AND PROVIDE ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
10. ALL DRAWINGS ARE INTEGRATED WITH THE SPECIFICATIONS WHICH ACCOMPANY THEM. NEITHER IS TO BE USED ALONE. ANY ITEM OR SUBJECT OMITTED FROM ONE BUT IMPLIED IN THE OTHER IS FULLY AND PROPERLY REQUIRED, WHEREVER DIFFERENCE OCCURS, THE MOST ONEROUS CONDITION GOVERNS.
11. PENETRATIONS OF EITHER FIRE OR SMOKE BARRIER RESISTANT WALLS SHALL BE SLEEVED & SEALED AGAINST THE PASSAGE OF FLAME OR SMOKE W/SUITABLE NON-COMBUSTIBLE MATERIALS EQUAL TO THE CONSTRUCTION TO BE PENETRATED.
12. AVOID ANY DIRECT CONTACT BETWEEN ANY PIPING, DUCTING AND ELECTRICAL CONDUIT SYSTEMS. TO PREVENT SOUND TRANSMISSION.
13. INSTALLATION SHALL BE COMPLETE AND FULLY FUNCTIONAL. PROVIDE ALL LABOR, MATERIALS, TOOLS, SERVICES, EQUIPMENT, ETC. AS REQUIRED.
14. PROVIDE ACCESS FOR SERVICING EQUIPMENT AS INDICATED, AS REQUIRED BY CODE AND AS RECOMMENDED BY THE MANUFACTURER.
15. PROVIDE ACCESS DOORS AS NECESSARY FOR ACCESS TO VALVES, DAMPERS, AND OTHER COMPONENTS REQUIRING MONITORING, INSPECTION, AND MAINTENANCE.
16. INSTALL EQUIPMENT, DUCTS, AND PIPES PARALLEL TO OR PERPENDICULAR TO BUILDING LINES. PROVIDE SPACE, UNIONS AND FLANGES FOR DISASSEMBLY, SERVICING AND REMOVAL OF EQUIPMENT.
17. WHEN A CONFLICT OCCURS BETWEEN INSTALLATION DETAILS, DIAGRAMS, ETC., INDICATED IN THE CONTRACT DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE MANUFACTURER'S INSTRUCTIONS SHALL GOVERN AND SHALL BE FOLLOWED.
18. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CODES, APPLICABLE STANDARDS, BULLETINS ETC., AND REQUIREMENTS OF ALL INSPECTION AUTHORITIES FOR THE CITY OF TORONTO.
19. CHECK AND VERIFY LOCATION OF ALL PIPES, DUCTS AND EQUIPMENT WITH ALL OTHER TRADES TO PREVENT INTERFERENCE. REMOVAL OR RELOCATION OF ANY SUCH WORK INTERFERING WITH WORK OF OTHER TRADES IS THE RESPONSIBILITY OF THE MECHANICAL TRADE CONCERNED UNLESS OTHERWISE APPROVED IN WRITING.
20. PROVIDE ACCESS DOOR FOR ALL VALVES LOCATED ABOVE DRY WALL CEILING.
21. IN ALL INSTANCES THE NEED FOR ACCESS DOOR IN GWB CEILINGS SHOULD BE AVOIDED IF POSSIBLE. WHERE INSTALLATION OF COMPONENTS WHICH REQUIRE ACCESS CANNOT BE AVOIDED, SUBMIT (DIMENSIONED) LAYOUT ON ARCHITECTURAL REFLECTED CEILING PLANS TO CONSULTANTS FOR APPROVAL PRIOR TO INSTALLATION OF COMPONENT.
22. BEFORE CUTTING ANY HOLES THROUGH THE EXISTING SLAB REFER TO STRUCTURAL DRAWINGS FOR GENERAL REQUIREMENTS.
23. PROVIDE SIGN IDENTIFYING LOCATION OF ALL VALVES INSTALLED IN CEILING SPACE.

GENERAL DEMOLITION NOTES

1. ALL DISTURBED SURFACES AFTER PIPE REMOVAL OR REROUTING TO BE FILLED-IN WITH APPROPRIATE MATERIAL TO MAINTAIN FIRE SEPARATION AND PATCHED TO MATCH EXISTING OR NEW.
2. CONTRACTOR IS TO ENSURE THAT ALL EXISTING REMOVED FIXTURES AND EQUIPMENT REMAIN THE PROPERTY OF THE OWNER.
3. AFTER PIPE/DUCT REMOVAL ALL EXISTING OPENINGS IN FIRE SEPARATION ARE TO BE FILLED-IN TO MAINTAIN INTEGRITY OF THAT FIRE SEPARATION.

GENERAL SITE SERVICE NOTES

1. CONTRACTOR IS TO VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. ALL EXISTING UTILITIES AND SERVICES ARE TO BE MAINTAINED AND SUPPORTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER OF THE UTILITY.

HVAC NOTES

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CO-ORDINATION OF GRILLES, DIFFUSERS AND OTHER ELEMENTS.
2. CONTRACTORS SHALL COORDINATE ALL CEILING FINISHES WITH OWNER AND MATCH EXISTING. CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS, ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ROOM FINISH SCHEDULES AS SOON AS CONTRACT DOCUMENTS ARE SIGNED. ADVISE CONSULTANT OF ANY CONFLICTS BETWEEN CEILING TYPE AND DIFFUSER/GRILLE TYPE.
3. THE CONTRACTOR SHALL VERIFY ALL CEILING FINISHES WITH ARCHITECTURAL DRAWINGS. CONTRACTOR AND DIFFUSER/GRILLE SUPPLIER ARE RESPONSIBLE TO PROVIDE ALL PLASTER AND FINISHING FRAMES, MOUNTING HARDWARE, AND ACCESSORIES TO SUIT ARCHITECTURAL CEILING TYPES. MECHANICAL CONTRACTOR SHALL CO-ORDINATE AND PROVIDE DETAILS OF MOUNTING REQUIREMENTS OF DIFFUSERS AND GRILLES IN DRYWALL CEILINGS TO DRYWALL TRADE AND ENSURE EDGES OF OPENINGS ARE FRAMED BY DRYWALL TRADE TO SUPPORT DIFFUSERS AND GRILLES PROPERLY. DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY HANGER WIRES.
4. CONTRACTOR TO CARRY FOR ADDITIONAL DUCTS AND DUCT FITTING REQUIRED TO CLEAR THE INTERFERENCES IN THE CEILING SPACE.
5. ALL NEW DUCTWORK TO BE CLEANED.
6. ALL DUCTWORK FITTINGS SHALL BE RIGID GALVANIZED IRON.
7. REPLACE AC-01 FILTERS WITH NEW PRIOR TO PROJECT TURNOVER.

PLUMBING NOTES

1. CONTRACTOR IS TO COORDINATE NEW DUCTWORK WHEN INSTALLING NEW PIPING. CLEARANCES TO BE VERIFIED ON SITE.
2. PROVIDE A CLEANOUT AT THE BOTTOM OF EVERY SOIL AND WASTE STACK THAT CONNECTS TO A HORIZONTAL DRAINAGE PIPE.
3. PROVIDE A CLEANOUT FROM EACH PLUMBING FIXTURE WHERE REQUIRED BY ONTARIO BUILDING CODE, PART 7 - PLUMBING.
4. ALL PLUMBING FIXTURES INCLUDING FLOOR DRAINS (HUB, FUNNEL FLOOR DRAINS) TO BE TRAPPED AND VENTED AS REQUIRED BY ONTARIO BUILDING CODE, PART 7 - PLUMBING.
5. FOR MOUNTING HEIGHT OF ALL PLUMBING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
6. PROVIDE ACCESS DOOR FOR ALL CLEANOUTS LOCATED ABOVE DRY WALL CEILING.
7. WHENEVER COLD AND HOT WATER DISTRIBUTION TO LAVATORIES IS TO RUN UNDER COUNTER, PIPING DISTRIBUTION IS TO BE INSTALLED AS TIGHT TO UNDER SIDE OF THE COUNTER AS POSSIBLE.
8. ALL WATER, SANITARY, SEWER AND VENT COPPER PIPING WITH SOLDER JOINTS SHALL BE LEAD FREE. DO NOT INSTALL WATER LINES IN OUTSIDE WALL WHERE THEY MAY FREEZE, UNLESS BOTH THE WALL AND THE PIPES ARE PROPERLY INSULATED.
9. INSTALL SHUT-OFF VALVES AT EACH PLUMBING FIXTURE.
10. PROVIDE AN ACCESS DOOR & CLEANOUT AT THE BOTTOM OF EVERY DRAINAGE STACK.

FIRE PROTECTION NOTES

1. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR DESIGN OF SPRINKLER SYSTEM IN STRICT ACCORDANCE WITH THE ONTARIO BUILDING CODE, ALL APPLICABLE NFPA STANDARDS, THE REQUIREMENTS OF THE OWNER'S INSURANCE UNDERWRITERS ENGINEERING AUTHORITY (O.I.U.E.A.) AND AUTHORITIES HAVING JURISDICTION.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION WITH THE WORK OF OTHER TRADES. PROVIDE HORIZONTAL AND/OR VERTICAL OFFSETS AS REQUIRED TO SUIT THIS COORDINATION.
3. PROVIDE ADDITIONAL SPRINKLER HEADS AS REQUIRED TO SUIT OBSTRUCTIONS GREATER THAN 1200mm [48"] [I.E.: DUCTWORK, BULKHEADS, ETC.].
4. CONTRACTOR SHALL PAY ALL FEES, CHARGES AND COSTS REQUIRED FOR REVIEWS, INSPECTIONS, TESTS OR COMMENTS IN REGARDS TO THIS PROJECT.
5. THE SPRINKLER LAYOUT SHOWN ON THESE DRAWINGS SERVE AS A GENERAL SCOPE OF WORK. THE SPRINKLER CONTRACTOR SHALL MAKE ALL MODIFICATIONS TO THE DESIGN TO COMPLY WITH AUTHORITIES REQUIREMENTS AND TO THE ARCHITECT'S APPROVAL. SPRINKLER HEADS MAY BE ADDED OR DELETED TO PROVIDE ADEQUATE COVERAGE AS DETERMINED BY THE SPRINKLER CONTRACTOR AT NO EXTRA OR CREDIT TO THE CONTRACT, PROVIDED ALL APPROVALS ARE MET IN FULL COORDINATION MECHANICAL, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS OF THE BUILDINGS.
6. FOR FINAL COORDINATION OF SPRINKLER LAYOUT REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.
7. SPRINKLER CONTRACTOR IS TO SUBMIT LAYOUT OF SPRINKLER HEAD LOCATIONS TO ARCHITECT AND CONSULTANTS FOR REVIEW.
8. IN "T" BAR CEILING LOCATE SPRINKLERS CENTERED LENGTHWISE WITH TILE, AT LEAST 6" FROM "T".
9. PROVIDE WIRE GUARDS ON ALL SPRINKLERS IN MECHANICAL AND ELECTRICAL ROOMS.
10. SPRINKLER CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING DRAWINGS FOR REVIEW. SPRINKLER CONTRACTOR SHALL PAY FOR & APPLY FOR A SPRINKLER PERMIT.
11. PROVIDE A ULC APPROVED FIRESTOP SEALANT AT ALL PIPE & DUCTWORK PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATING REQUIREMENTS.

LEGEND - PIPING

THIS LEGEND OF SYMBOLS REPRESENTS MANTECON PARTNERS INC. STANDARD/GENERIC LEGEND. ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.

REFER	DESCRIPTION
DCW	DOMESTIC COLD WATER PIPING
U/G DCW	DOMESTIC COLD WATER PIPING BELOW GRADE OR FLOOR
DHW	DOMESTIC HOT WATER PIPING
U/G DHW	DOMESTIC HOT WATER PIPING BELOW GRADE OR FLOOR
DHWR	DOMESTIC HOT WATER RECIRC. PIPING
CA	COMPRESSED AIR
VENT	VENT PIPING
SAN	SANITARY PIPING ABOVE FLOOR
U/G SAN	SANITARY PIPING BELOW GRADE
U/F SAN	SANITARY PIPING BELOW FLOOR
STM	STORM PIPING ABOVE FLOOR
U/G STM	STORM PIPING BELOW GRADE OR FLOOR
G	GAS PIPING
U/G G	GAS PIPING BELOW GRADE
	PIPING TO BE REMOVED
CTE	CONNECT TO EXISTING
	CAPPED PIPE
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
TSP	TRAP SEAL PRIMER
CO	CLEANOUT IN FLOOR
WCO	CLEANOUT AT WALL
CO	CLEANOUT IN LINE OR STACK
NFHB	NON-FREEZE HOSE BIBB
	ISOLATION VALVE (BALL OR GLOBE VALVE)
	THROTTLING VALVE
CBV	CONTROL BALANING VALVE (WATER)
	CHECK VALVE
	STRAINER
	GAS VALVE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
PVB	VACUUM BREAKER - PRESSURE TYPE
PRV	PRESSURE REDUCING VALVE (GAS)
D	PIPE DOWN
O	PIPE UP
	PIPE UP & DOWN
	PIPE TEE

LEGEND - HVAC

THIS LEGEND OF SYMBOLS REPRESENTS MANTECON PARTNERS INC. STANDARD/GENERIC LEGEND. ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS

REFER	DESCRIPTION
UP	SUPPLY DUCT UP
DN	SUPPLY DUCT DN
UP	RETURN DUCT UP
DN	RETURN DUCT DN
UP	EXHAUST DUCT UP
DN	EXHAUST DUCT DN
	SUPPLY DIFFUSER
	RETURN DIFFUSER
	EXHAUST DIFFUSER
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
	AIR FLOW DIRECTION
RE	RELOCATED EXISTING LOCATION
RL	RELOCATED NEW LOCATION

DIFFUSER TAG

TYPE
FLOW (L/S)
NECK SIZE (mm)

LEGEND - FIRE PROTECTION

THIS LEGEND OF SYMBOLS REPRESENTS MANTECON PARTNERS INC. STANDARD/GENERIC LEGEND. ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.

REFER	DESCRIPTION
	FIRE EXTINGUISHER - SURFACE MOUNTED
	SPRINKLER HEAD - PENDENT
	SPRINKLER HEAD - UPRIGHT
D	SPRINKLER HEAD - DRY PENDENT
	FIRE HOSE CABINET - SEMI RECESSED
FEC	FIRE EXTINGUISHER -RECESSED CABINET

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
1	ISSUED FOR COORDINATION	2024/01/11

Consultants

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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
LEAD SHEET (DRAWING LIST, LEGEND & NOTES)

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

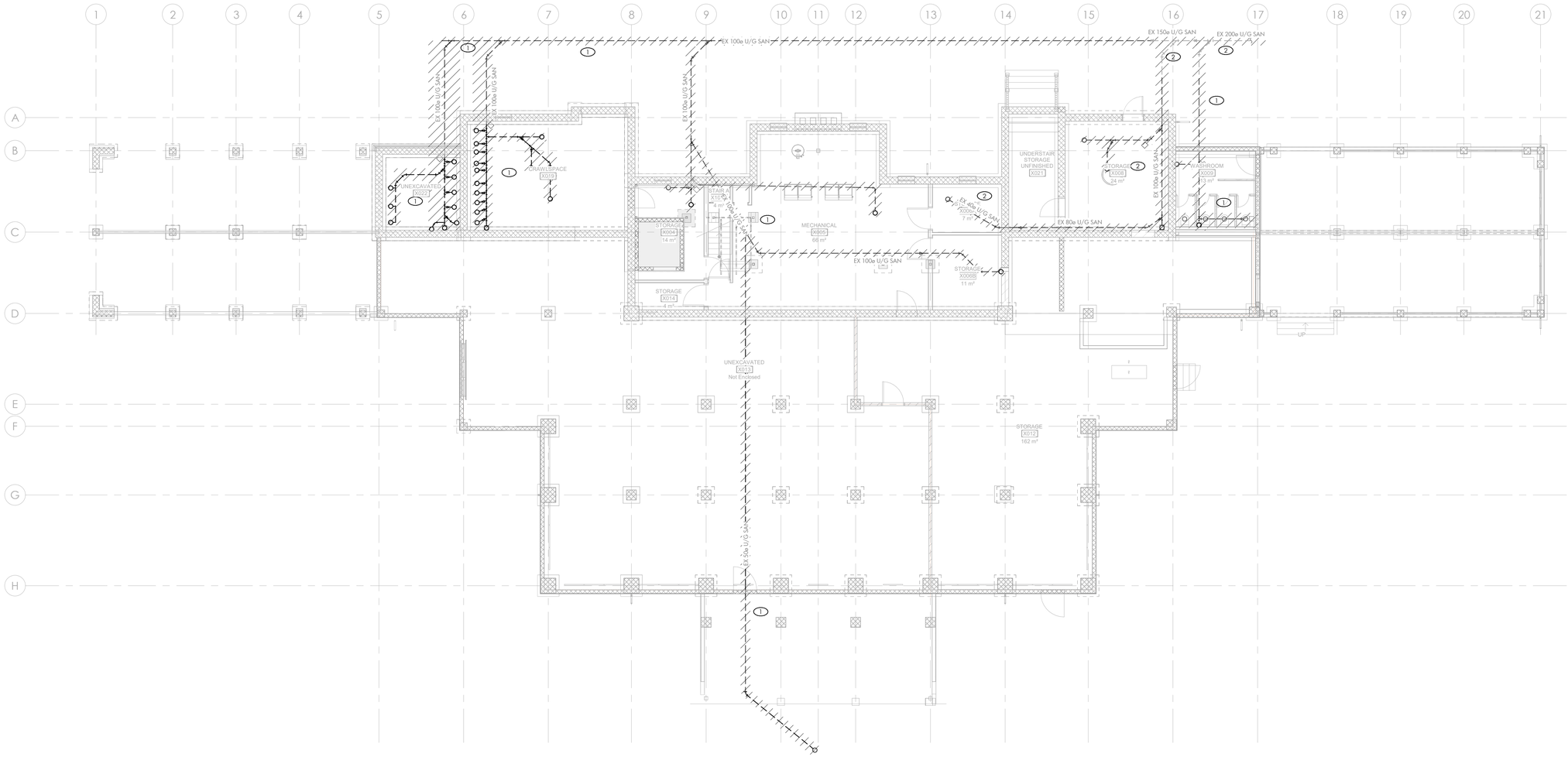
Drawing No.:

M0.01

DRAWING NOTES:

1. EXISTING SAN PIPING, FLOOR DRAIN, CLEAN-OUT, PLUMBING FIXTURES TO BE REMOVED & DISPOSED AT PHASE 1A.
2. EXISTING SAN PIPING, FLOOR DRAIN, CLEAN-OUT, PLUMBING FIXTURES TO BE REMOVED & DISPOSED AT PHASE 1B.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT DEMOLITION DRAINAGE PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

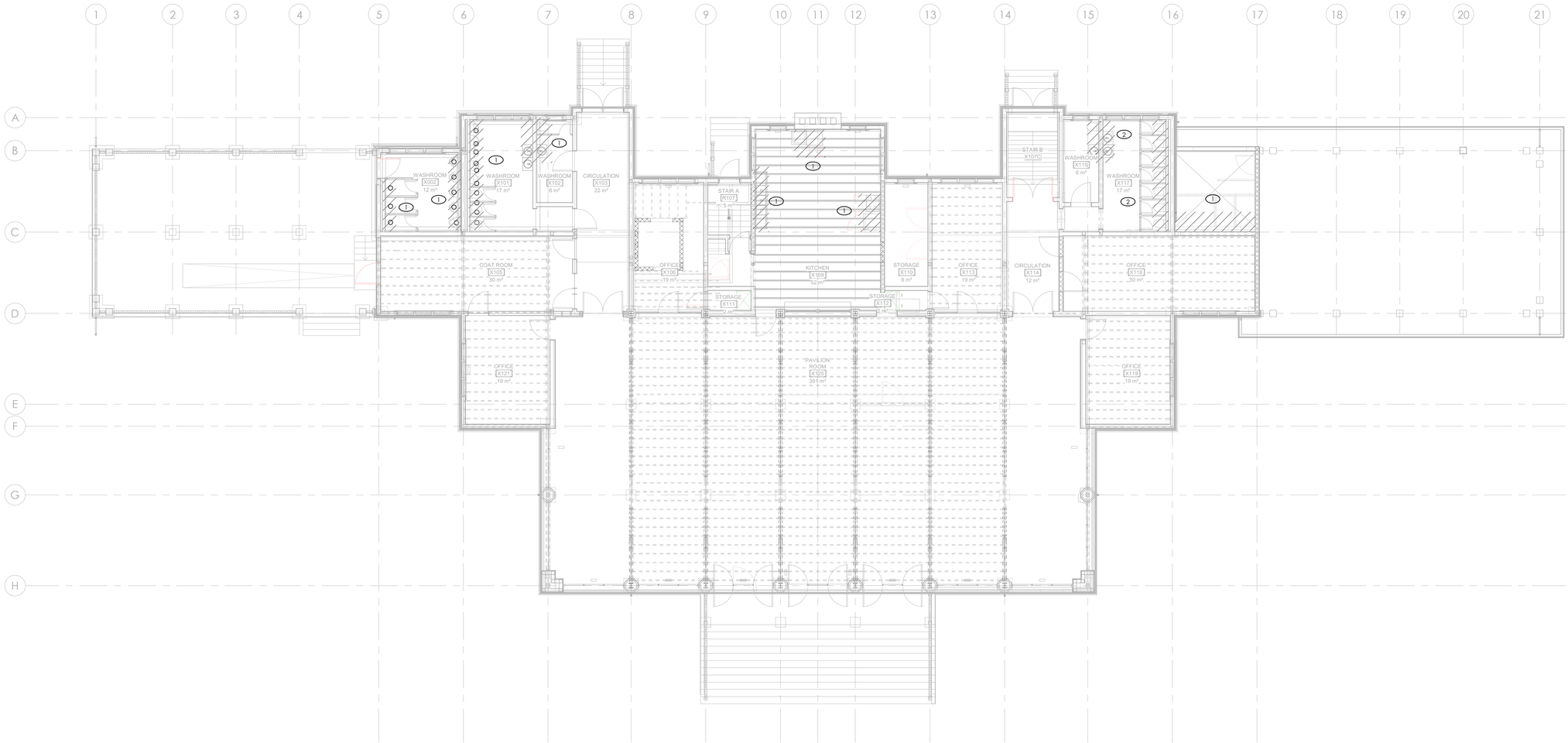
M1.00

1 BASEMENT DEMOLITION DRAINAGE PLAN - PHASE 1
M1.00 1 : 100

DRAWING NOTES:

1. EXISTING SAN PIPING, FLOOR DRAIN, CLEAN-OUT, PLUMBING FIXTURES AND KITCHEN EQUIPMENT TO BE REMOVED & DISPOSED AT PHASE 1A.
2. EXISTING SAN PIPING, FLOOR DRAIN, CLEAN-OUT, PLUMBING FIXTURES TO BE REMOVED & DISPOSED AT PHASE 1B.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 / M1.01 LEVEL 1 DEMOLITION DRAINAGE PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
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2	ISSUED FOR PERMIT	2024/01/31
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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

LEVEL 1 DEMOLITION DRAINAGE PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

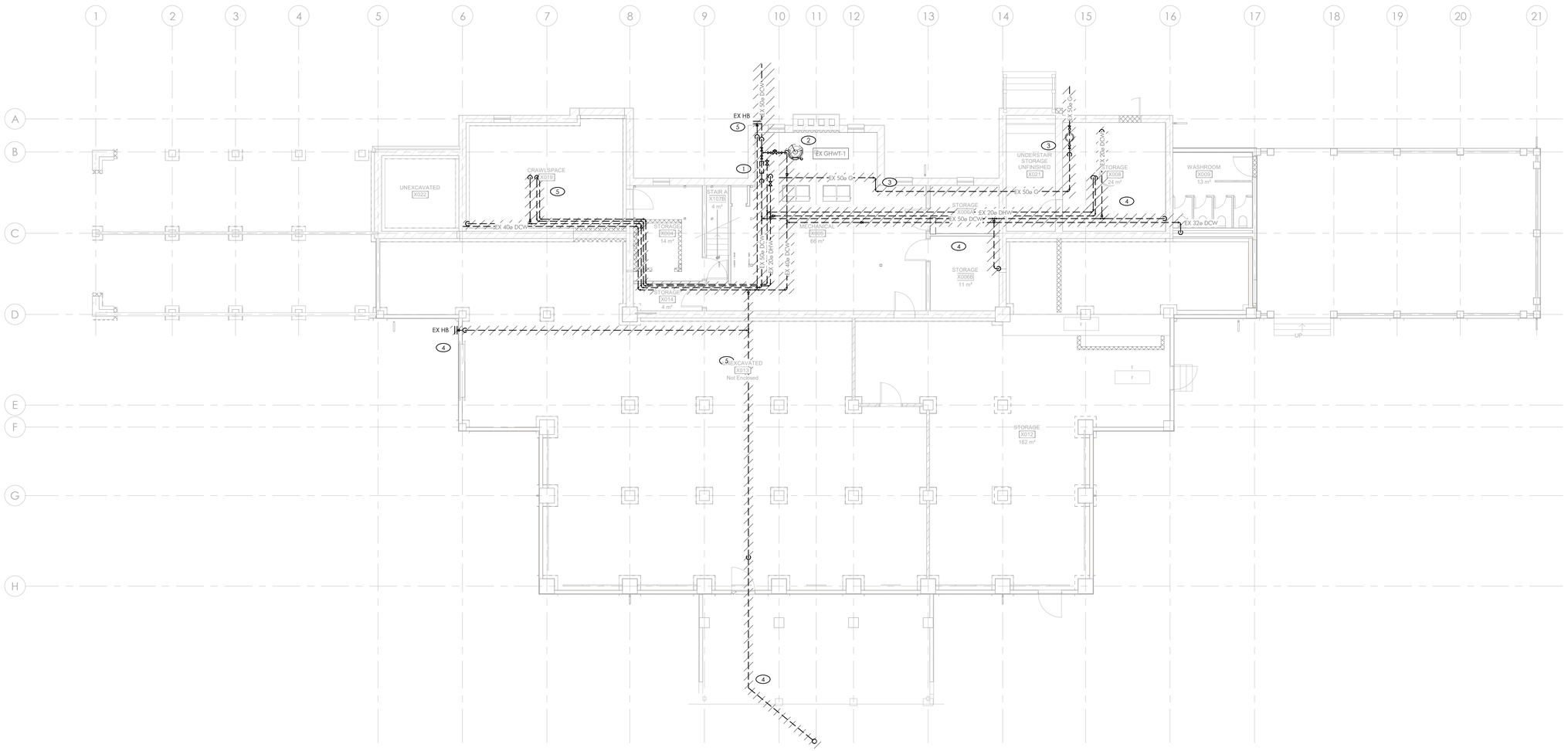
Drawing No.:

M1.01

DRAWING NOTES:

1. EXISTING INCOMING WATER METER ASSEMBLY TO BE REMOVED AND DISPOSED AT PHASE 1B, CAPPED AT THE END OF DCW PIPE AT SERVICE SITE.
2. EXISTING HOT WATER HEATER TO BE REMOVED AND DISPOSED AT PHASE 1B.
3. EXISTING INCOMING GAS METER ASSEMBLY AND PIPING TO BE REMOVED AND DISPOSED AT PHASE 1B, CAPPED AT THE END OF GAS PIPE AT SERVICE SITE.
4. EXISTING DCW, DHW, DHWR PIPING, ASSOCIATED VALVES TO BE REMOVED AND DISPOSED AT PHASE 1B.
5. EXISTING DCW, DHW, DHWR PIPING, ASSOCIATED VALVES TO BE REMOVED AND DISPOSED AT PHASE 1A.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 (M1.05) BASEMENT DEMOLITION PLUMBING PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
1	ISSUED FOR COORDINATION	2024/01/11

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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT DEMOLITION PLUMBING PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

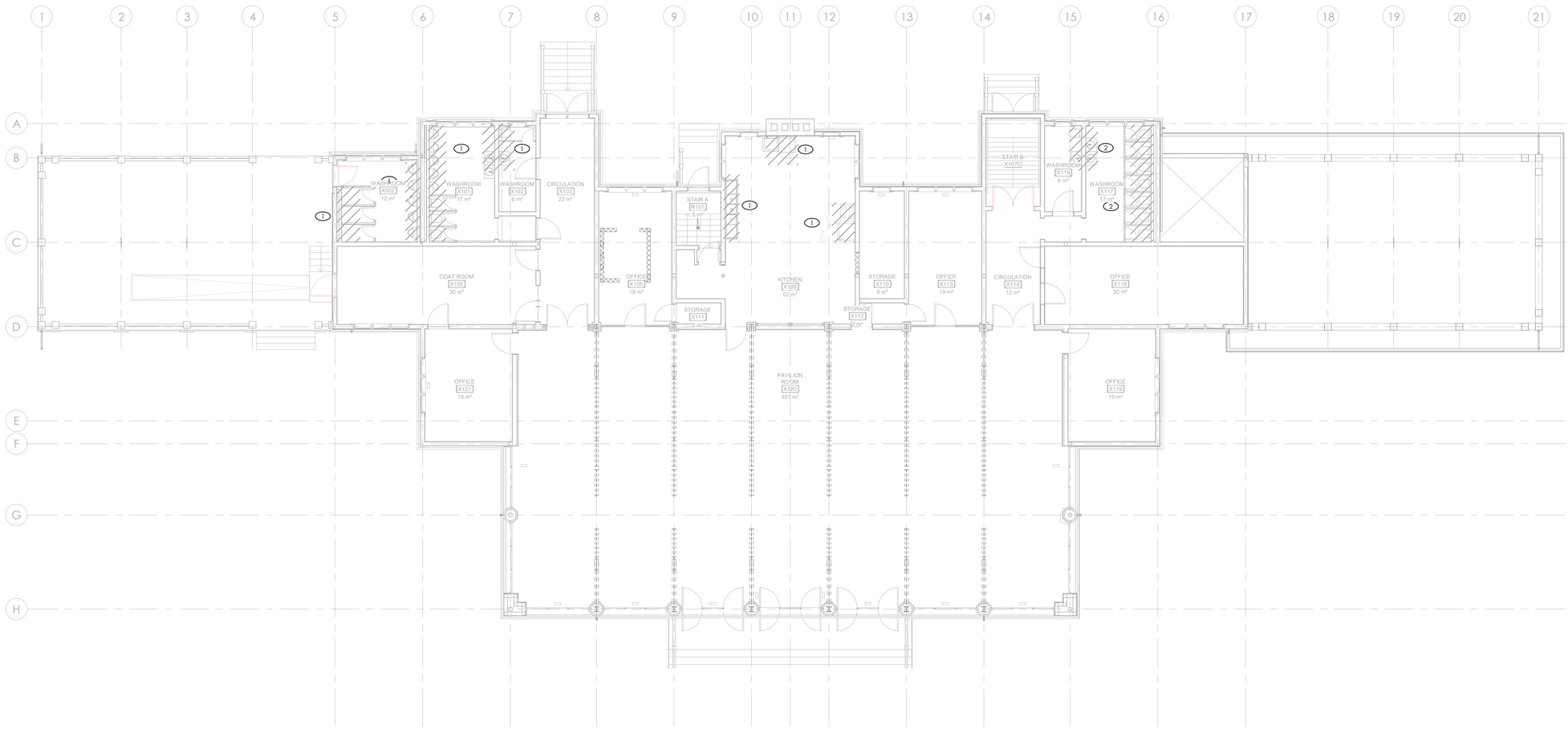
Drawing No.:

M1.05

DRAWING NOTES:

1. EXISTING DCW, DHW, DHWR PIPING, PLUMBING FIXTURES, ASSOCIATED VALVES TO BE REMOVED AND DISPOSED AT PHASE 1A.
2. EXISTING DCW, DHW, DHWR PIPING, PLUMBING FIXTURES, ASSOCIATED VALVES TO BE REMOVED AND DISPOSED AT PHASE 1B.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

LEVEL 1 DEMOLITION PLUMBING PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

M1.06

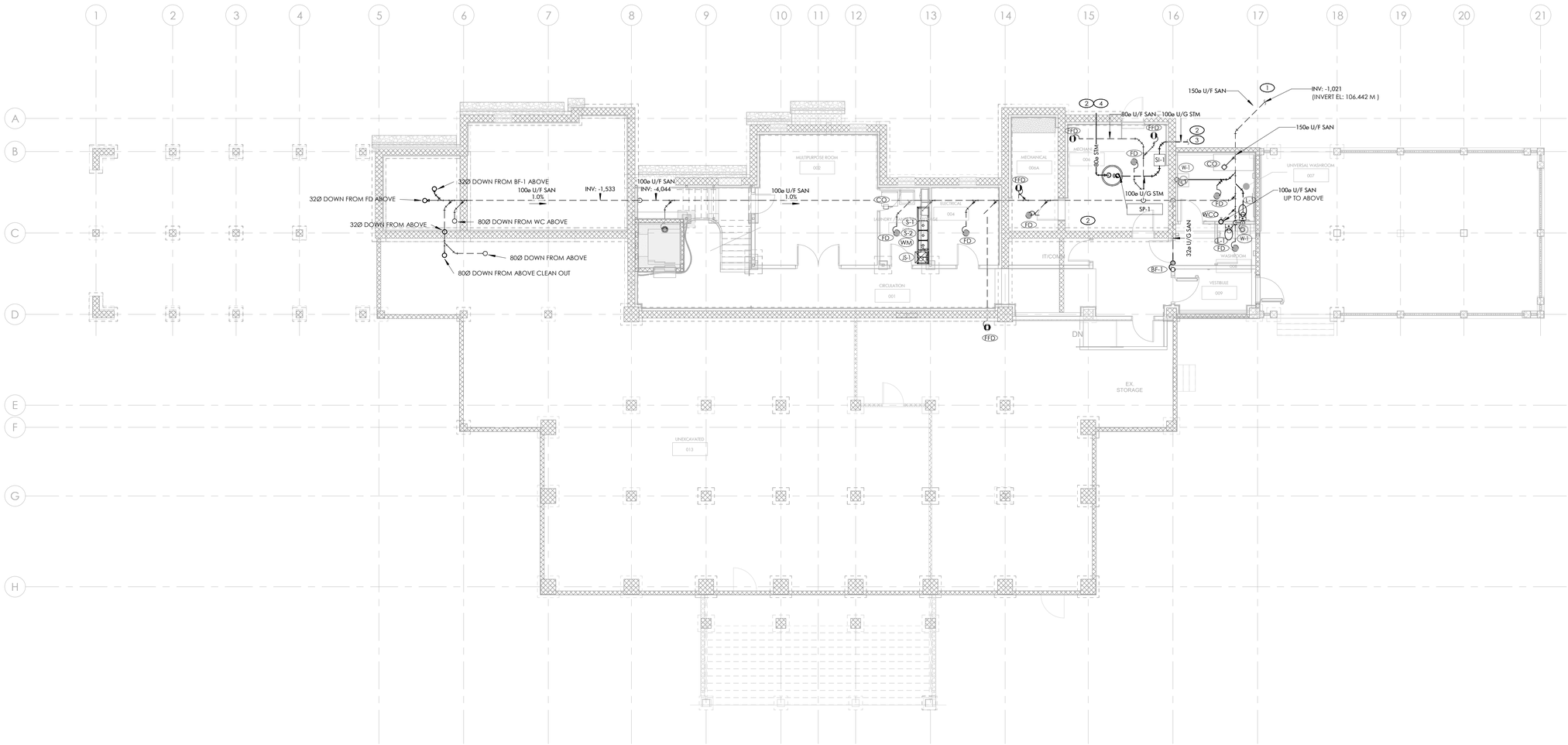
1 / M1.06 LEVEL 1 DEMOLITION PLUMBING PLAN - PHASE 1
1 : 100

GENERAL NOTES:

1. GROUND FLOOR (LEVEL 1) ELEV. = 0.000 m (INVERT EL: 110.590m)
   EXISTING BASEMENT FLOOR (LEVEL 0) ELEV. = -3.048 m (INVERT EL: 107.542m)
   NEW BASEMENT FLOOR (LEVEL 0) ELEV. = -3.456 m (INVERT EL: 107.134m)
2. PLAN VIEW SHOWN AS VIEW RANGE AREA.
3. UNLESS OTHERWISE NOTED, ALL FLOOR DRAIN, FUNNEL FLOOR DRAINS AND HUB DRAINS SHOWN ON THE DRAWING SHALL BE CONNECTED TO THE TRAP SEAL PRIMER. CONTRACTOR TO FIELD RUN ALL TUBING AS NECESSARY TO ACCOMMODATE. TUBING SIZES SHALL ALL BE 10MM ID MINIMUM. MECHANICAL AND ELECTRICAL CONTRACTORS TO COORDINATE LOCATION OF TRAP SEAL PRIMER MANIFOLD.

DRAWING NOTES:

1. CONNECT TO EXISTING MANHOLE AT SITE SERVICE. REFER TO ENGINEER OF ANY CONCERNS.
2. PROVIDE SEPARATE PRICING FOR WEEPING DRAINAGE SYSTEM. (INCLUDES SEDIMENT INTERCEPTOR, SUMP, SUMP PUMPS, CONTROLS AND ALL PIPING REQUIRED).
3. CONNECT TO WEEPING TILE DRAIN IN APPROXIMATE LOCATION. REFER TO ARCH FOR CONTINUATION.
4. CONNECT TO DOWNSPOUT AT LOW LEVEL.



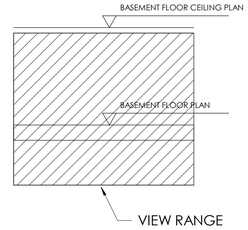
REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

ROOF PLAN

GROUND FLOOR CEILING PLAN

GROUND FLOOR PLAN



LEGEND - VIEW RANGE

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
1	ISSUED FOR COORDINATION	2024/01/11

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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT PROPOSED DRAINAGE PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

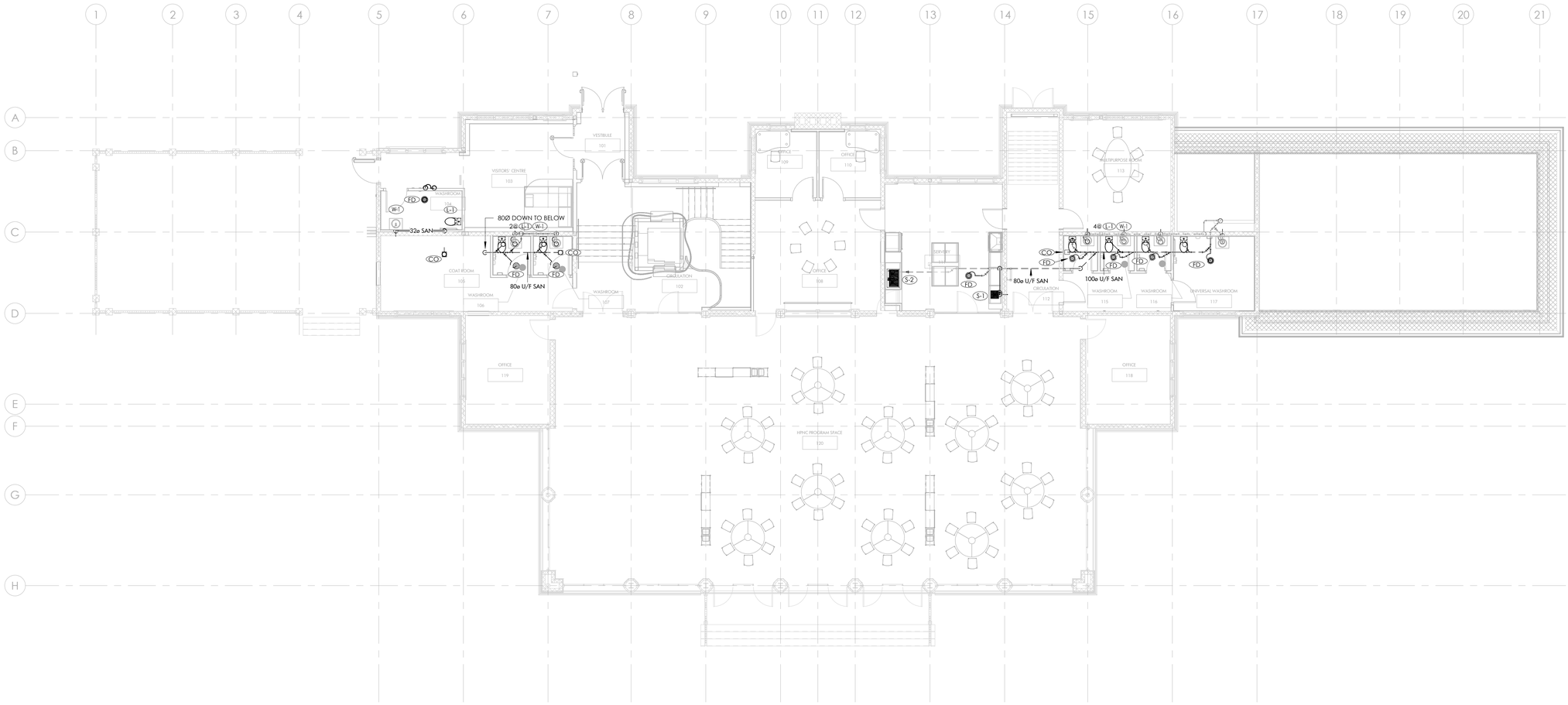
Drawing No.:

M1.10

1 / M1.10 BASEMENT PROPOSED DRAINAGE PLAN - PHASE 1
1 : 100

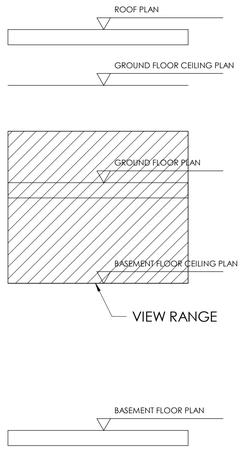
GENERAL NOTES:

1. GROUND FLOOR (LEVEL 1) ELEV. = 0.000 m (INVERT EL: 110.590m)
   EXISTING BASEMENT FLOOR (LEVEL 0) ELEV. = -3.048 m (INVERT EL: 107.542m)
   NEW BASEMENT FLOOR (LEVEL 0) ELEV. = -3.456 m (INVERT EL: 107.134m)
2. PLAN VIEW SHOWN AS VIEW RANGE AREA.
3. UNLESS OTHERWISE NOTED, ALL FLOOR DRAIN, FUNNEL FLOOR DRAINS AND HUB DRAINS SHOWN ON THE DRAWING SHALL BE CONNECTED TO THE TRAP SEAL PRIMER. CONTRACTOR TO FIELD RUN ALL TUBING AS NECESSARY TO ACCOMMODATE. TUBING SIZES SHALL ALL BE 10MM ID MINIMUM. MECHANICAL AND ELECTRICAL CONTRACTORS TO COORDINATE LOCATION OF TRAP SEAL PRIMER MANIFOLD.



1 M1.11 LEVEL 1 PROPOSED DRAINAGE PLAN - PHASE 1
1 : 100

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



LEGEND - VIEW RANGE

Rev.#	Description	Date
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4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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1	ISSUED FOR COORDINATION	2024/01/11

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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
LEVEL 1 PROPOSED DRAINAGE PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

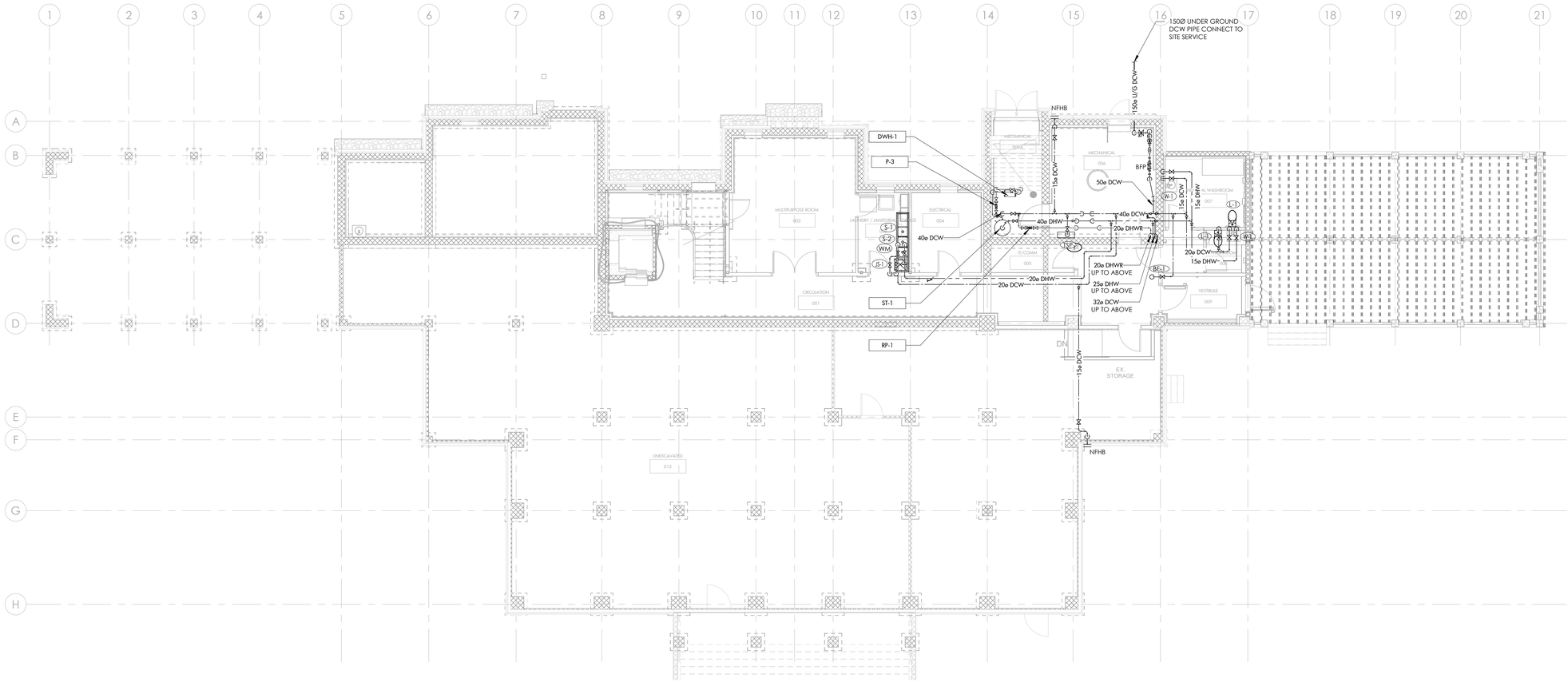
NORTH ARROW

Drawing No.:
M1.11

DRAWING NOTES:

1. UNLESS OTHERWISE NOTED ALL FLOOR DRAIN, FUNNEL FLOOR DRAINS SHOWN ON THE DRAWING SHALL BE CONNECTED TO THE TRAP SEAL PRIMER. CONTRACTOR TO FIELD RUN ALL TUBING AS NECESSARY TO ACCOMMODATE. TUBING SIZE SHALL BE 10 MM (3/8") ID MINIMUM.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 M1.15 BASEMENT PROPOSED PLUMBING PLAN - PHASE 1
1 : 100

Rev #	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT PROPOSED PLUMBING PLAN - PHASE 1

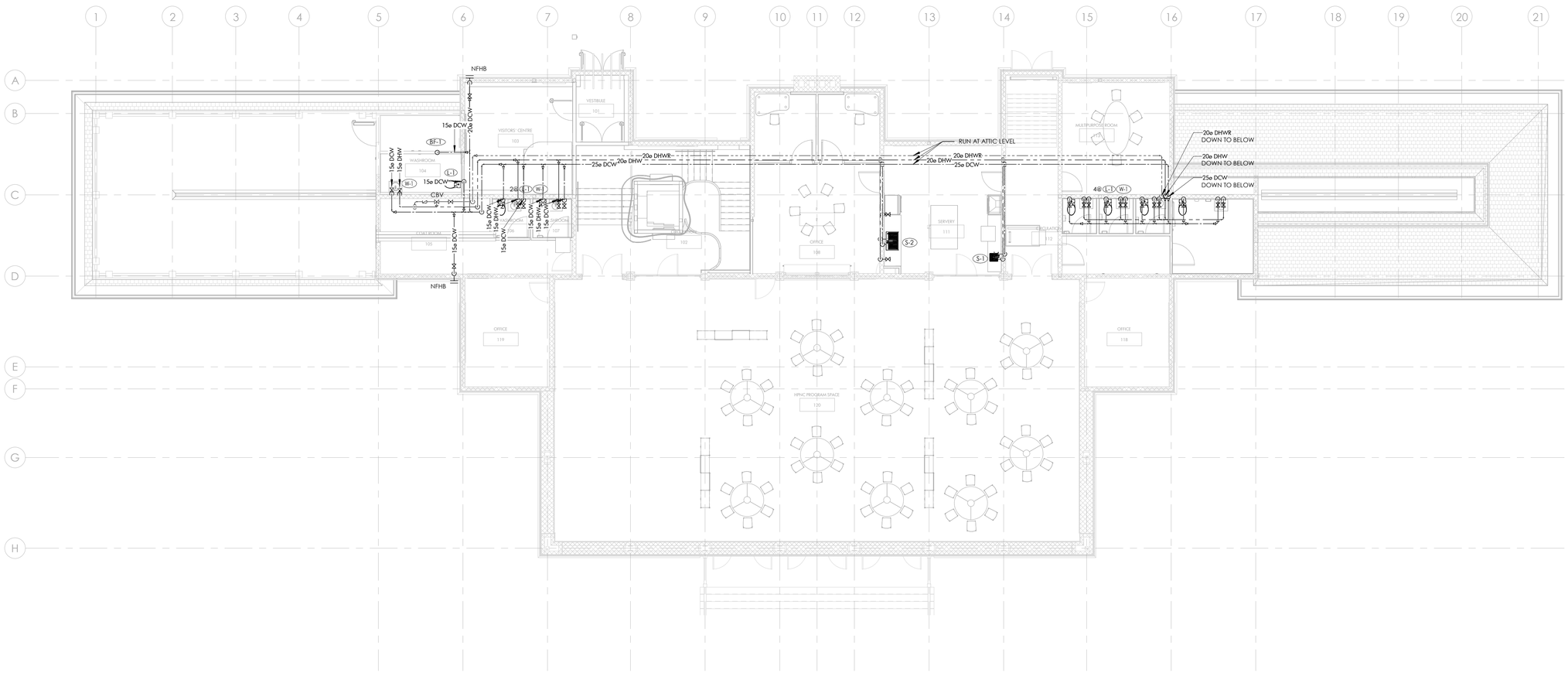
Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

M1.15

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 LEVEL 1 PROPOSED PLUMBING PLAN - PHASE 1
M1.16 1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

LEVEL 1 PROPOSED PLUMBING PLAN - PHASE 1

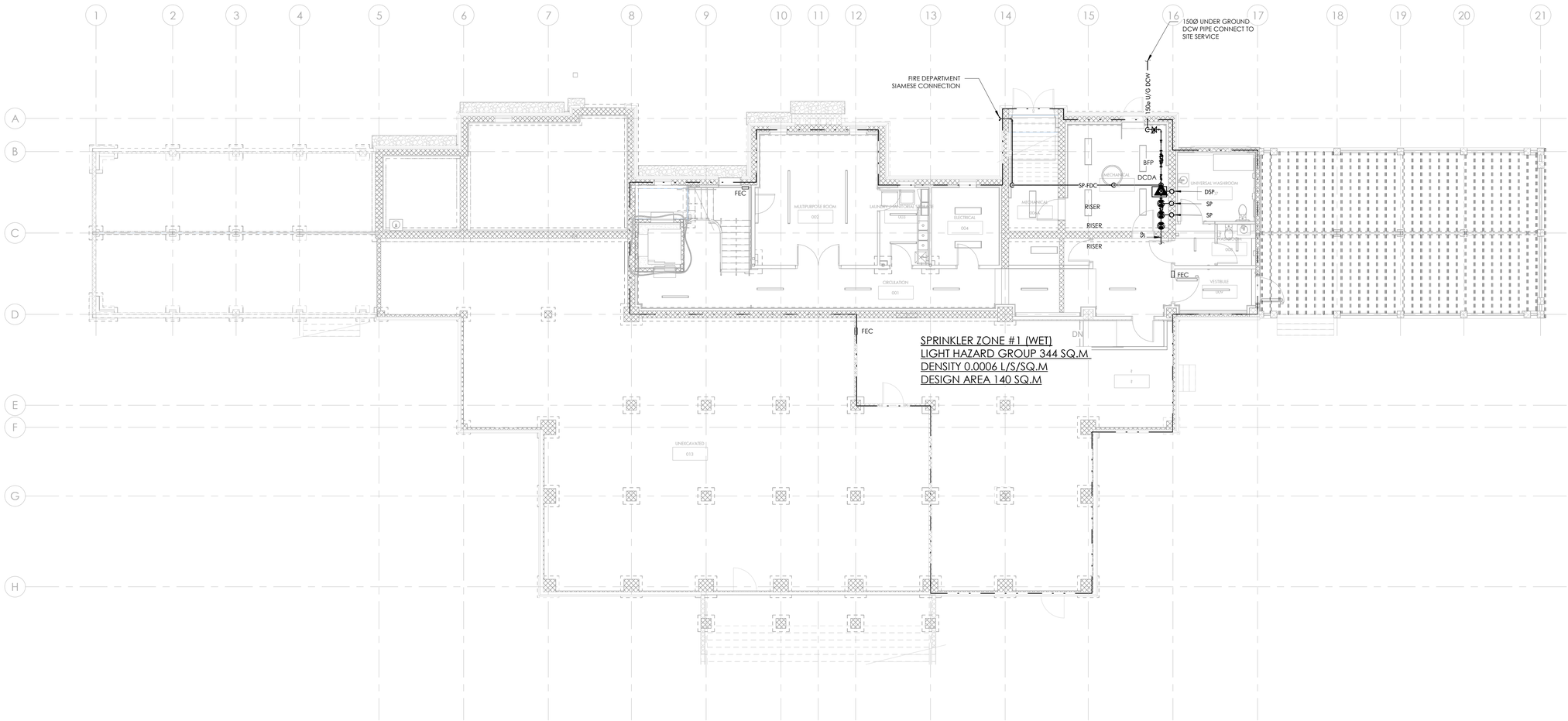
Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

Drawing No.:

M1.16

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 M2.10 BASEMENT PROPOSED FIRE PROTECTION PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT PROPOSED FIRE PROTECTION PLAN - PHASE 1

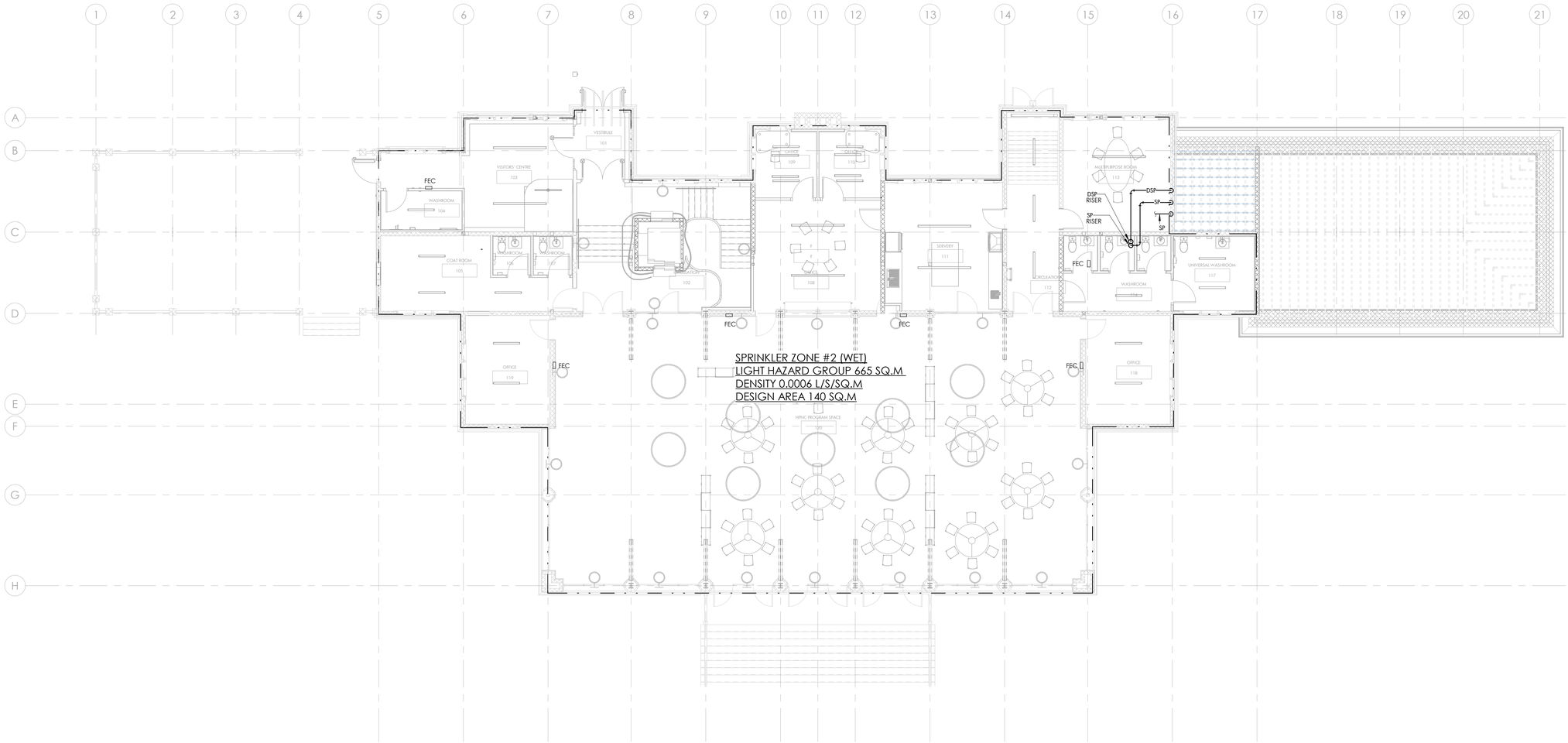
Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

M2.10

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 / M2.12 LEVEL 1 PROPOSED FIRE PROTECTION PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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1	ISSUED FOR COORDINATION	2024/01/11

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HIGH PARK NATURE AND VISITOR'S CENTER

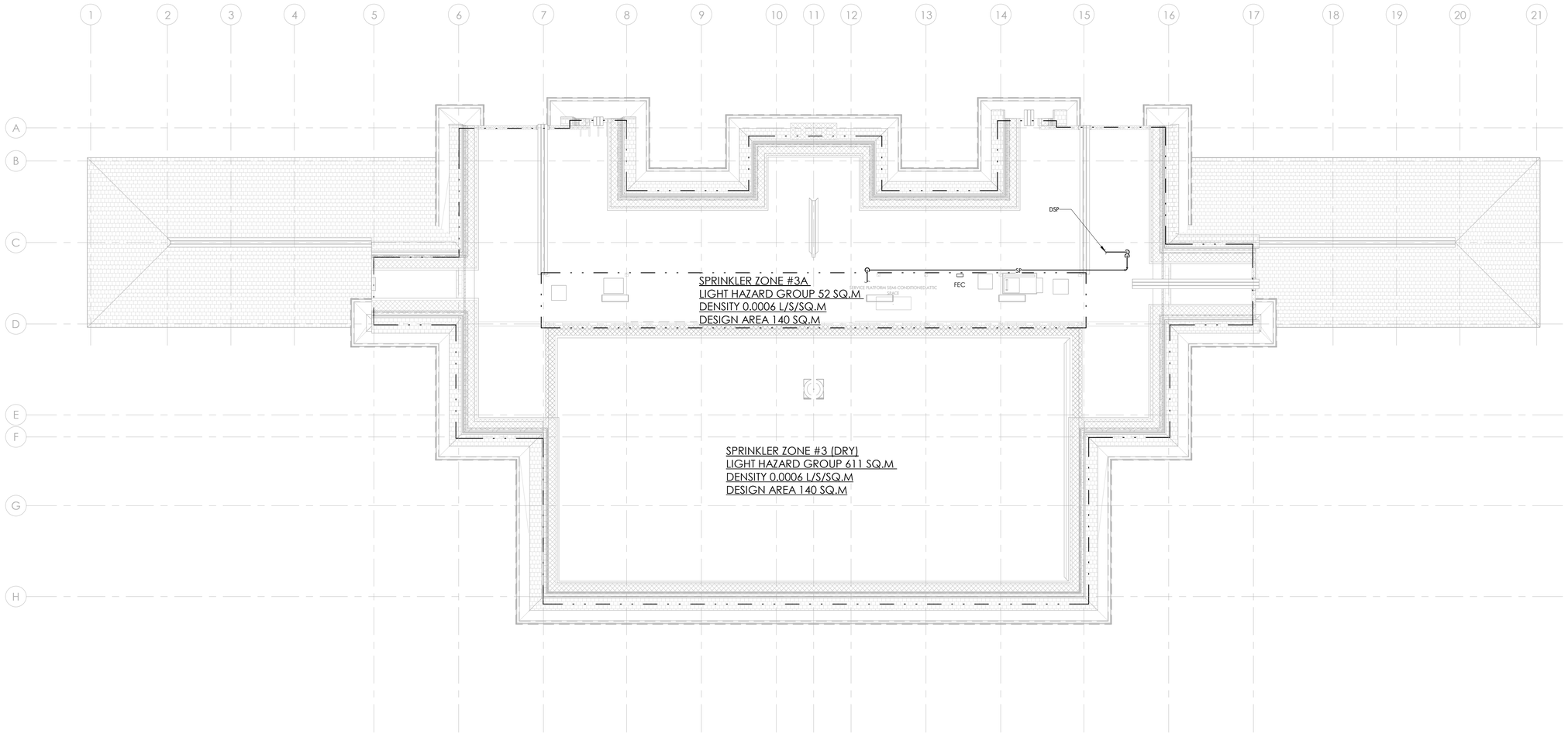
Drawing Name:
LEVEL 1 PROPOSED FIRE PROTECTION PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

Drawing No.:
M2.12

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 / M2.13 ATTIC LEVEL PROPOSED FIRE PROTECTION PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
ATTIC LEVEL PROPOSED FIRE PROTECTION PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

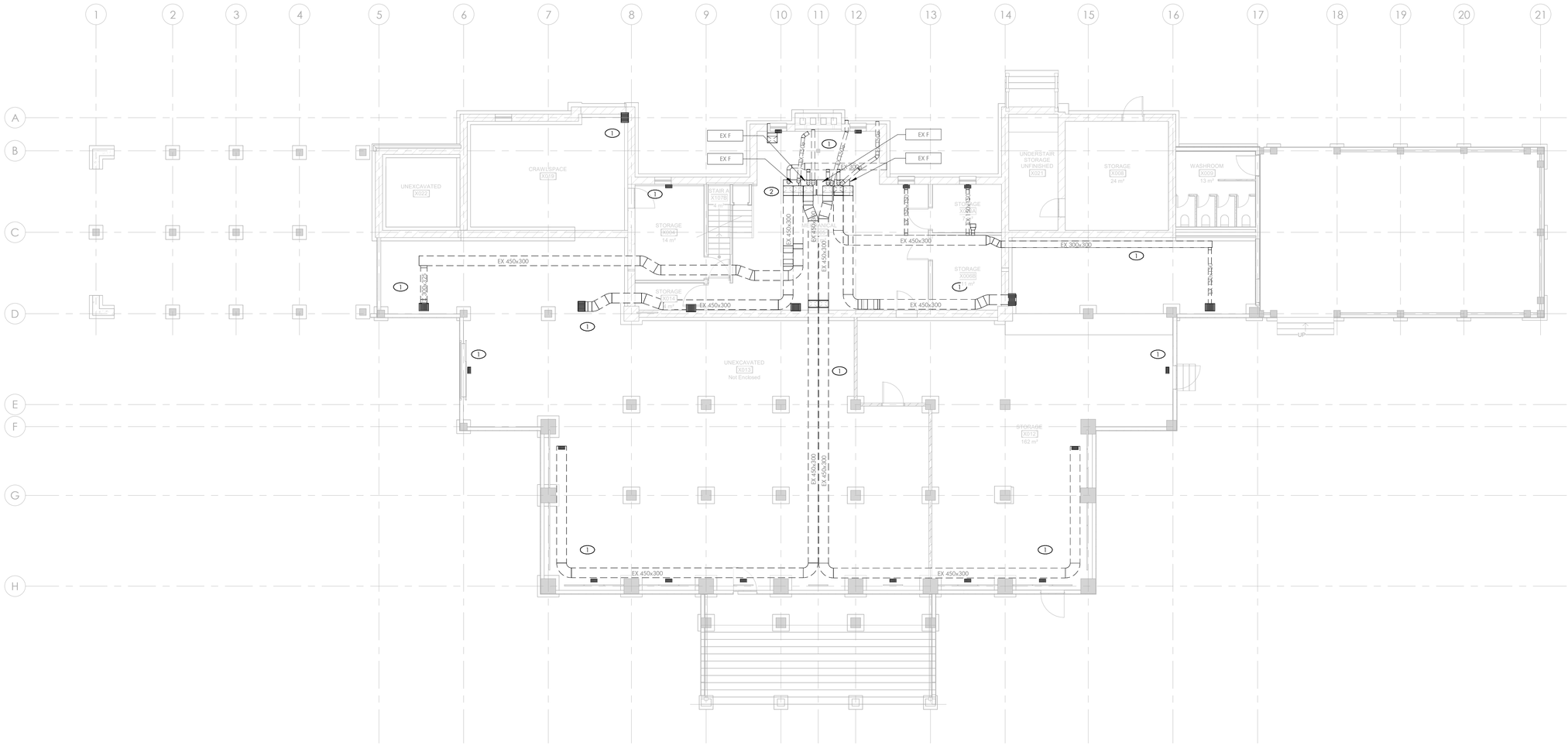
Drawing No.:

M2.13

DRAWING NOTES:

1. EXISTING DUCT WORK & REGISTERS TO BE REMOVED & DISPOSED.
2. EXISTING GAS FIRE FURANCE AND ALL ASSOCIATED CONTROL WIRING TO BE REMOVED & DISPOSED.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 M3.00 BASEMENT DEMOLITION HVAC PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
BASEMENT DEMOLITION HVAC PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

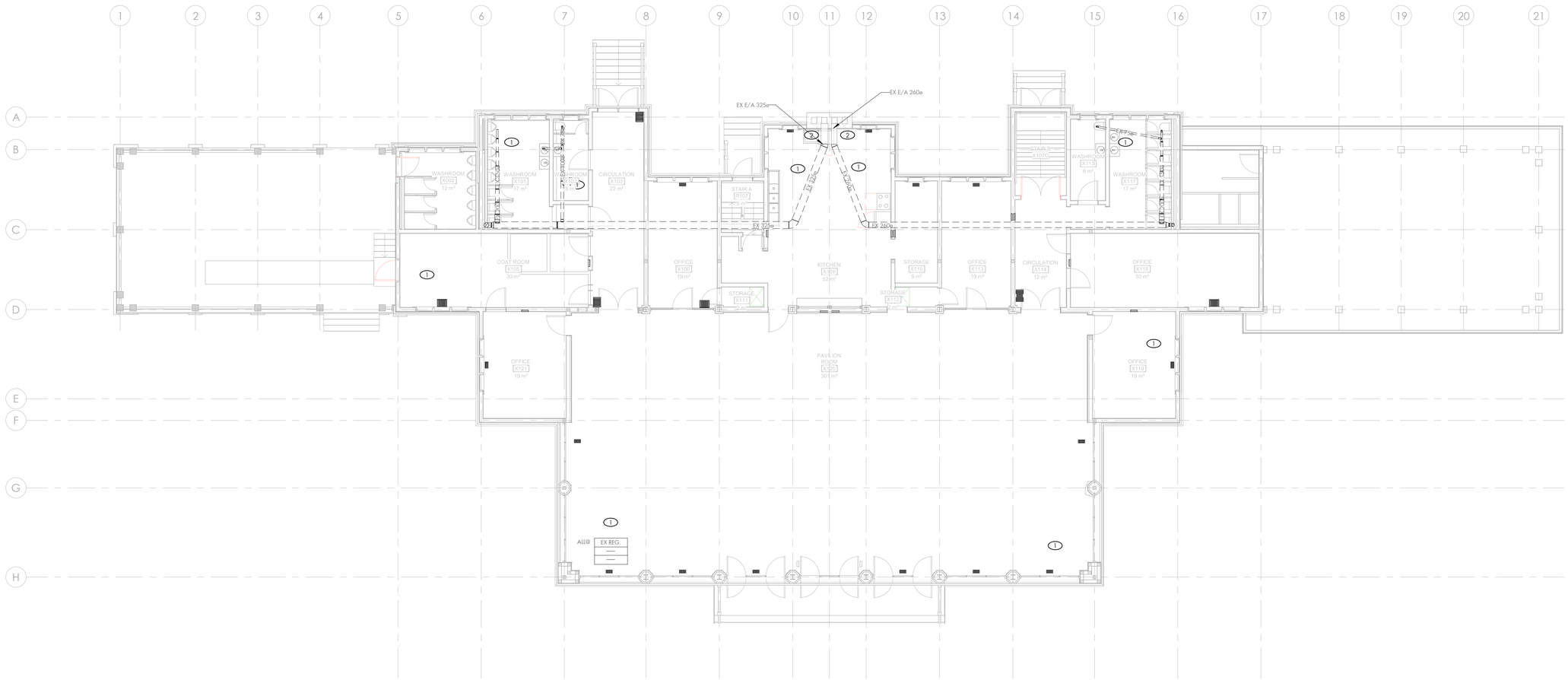
NORTH ARROW

Drawing No.:
M3.00

DRAWING NOTES:

1. EXISTING DUCT WORK & REGISTERS TO BE REMOVED & DISPOSED.
2. EXISTING E/A DUCT TO REMAIN.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 LEVEL 1 DEMOLITION HVAC PLAN - PHASE 1
M3.01 1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
LEVEL 1 DEMOLITION HVAC PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

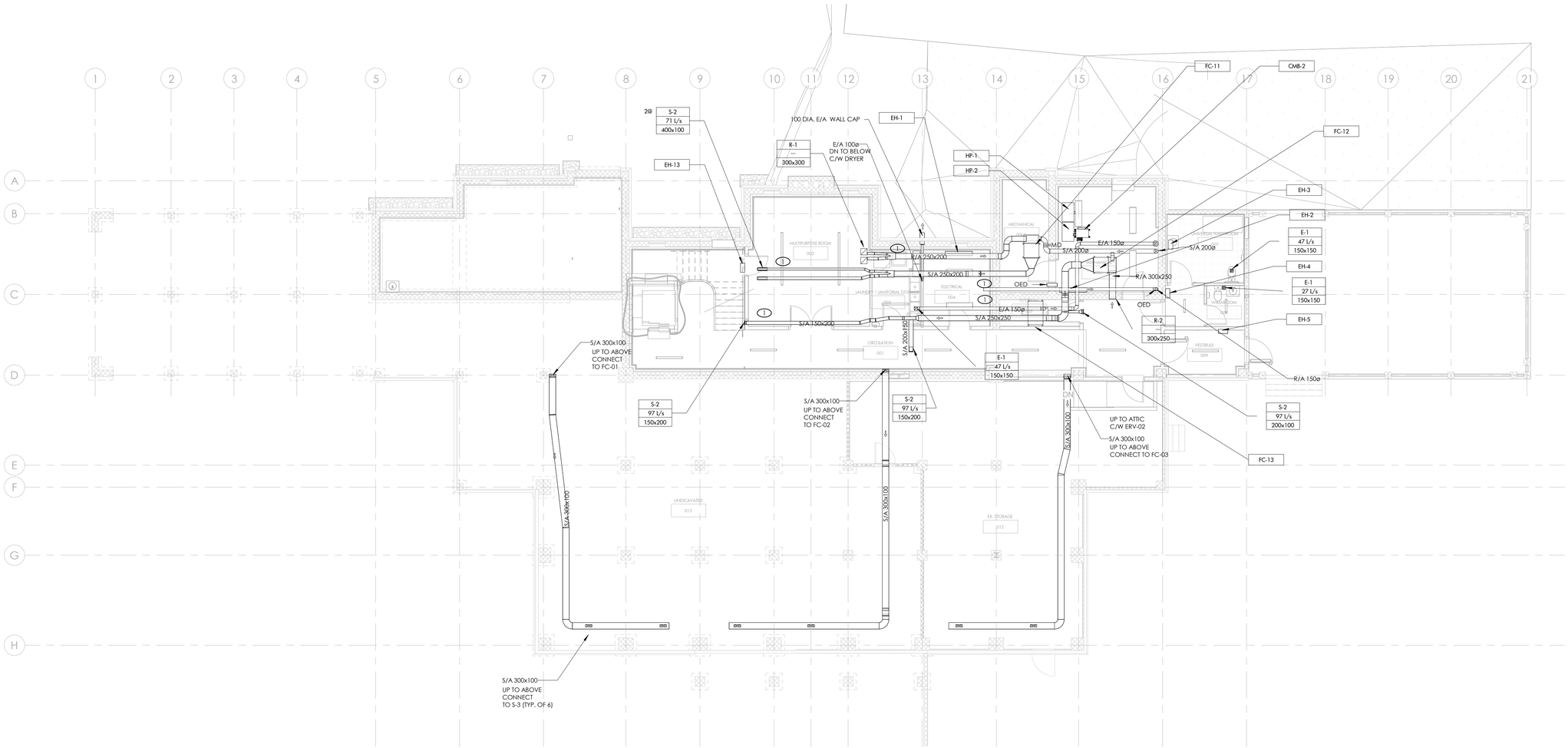
NORTH ARROW

Drawing No.:
M3.01

DRAWING NOTES:

1. NEW DUCTS RUN IN THE JOINT SPACES.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



Rev.#	Description	Date
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT PROPOSED HVAC PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

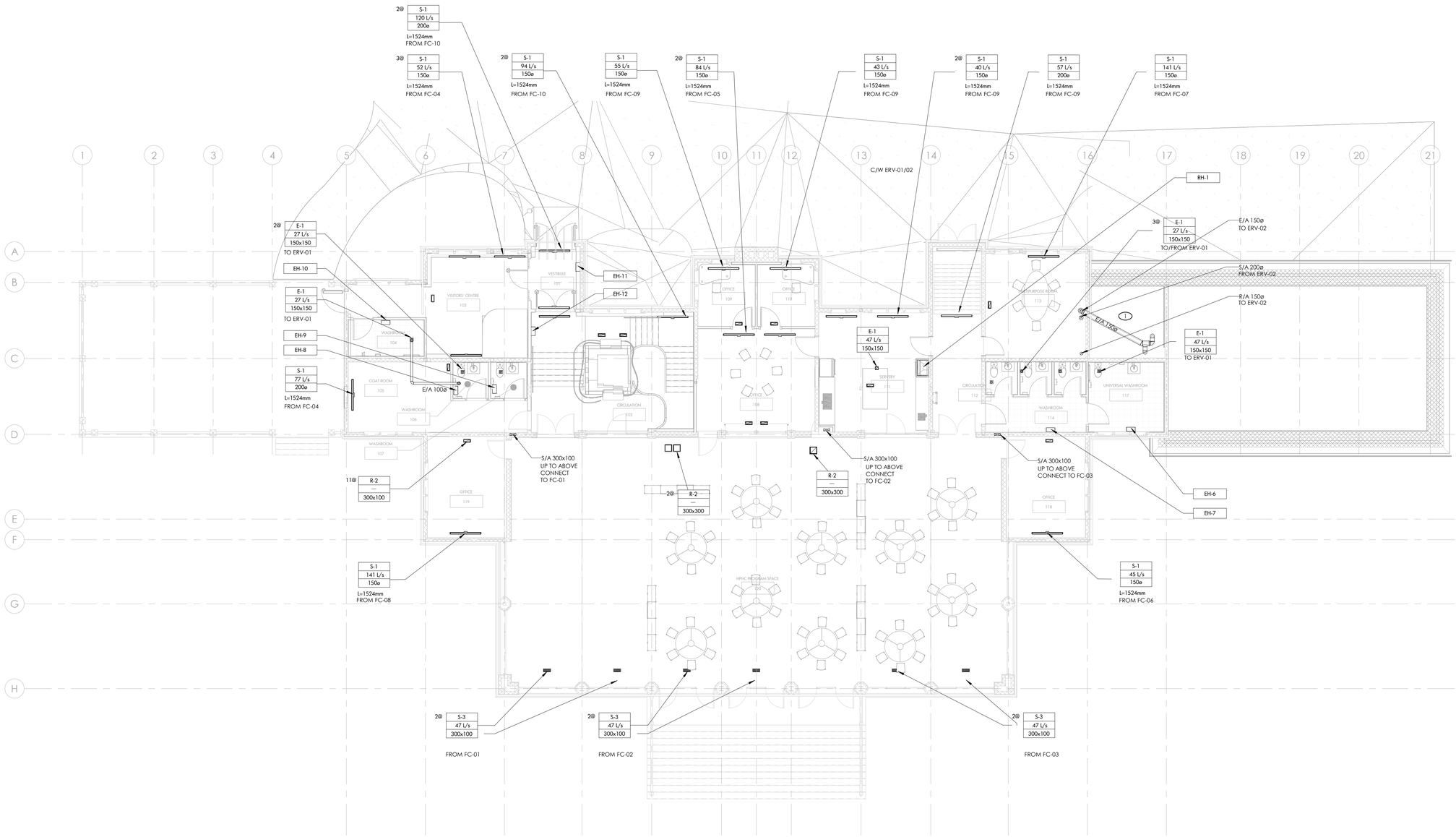
M3.10

1 / M3.10 BASEMENT PROPOSED HVAC PLAN - PHASE 1
1 : 100

DRAWING NOTES:

(1) INSULATE DUCT WITH 2" INSULATION AS SHOWN.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



Rev.#	Description	Date
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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

LEVEL 1 PROPOSED HVAC PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

Drawing No.:

M3.11

1 / M3.11 LEVEL 1 PROPOSED HVAC PLAN - PHASE 1
1 : 100

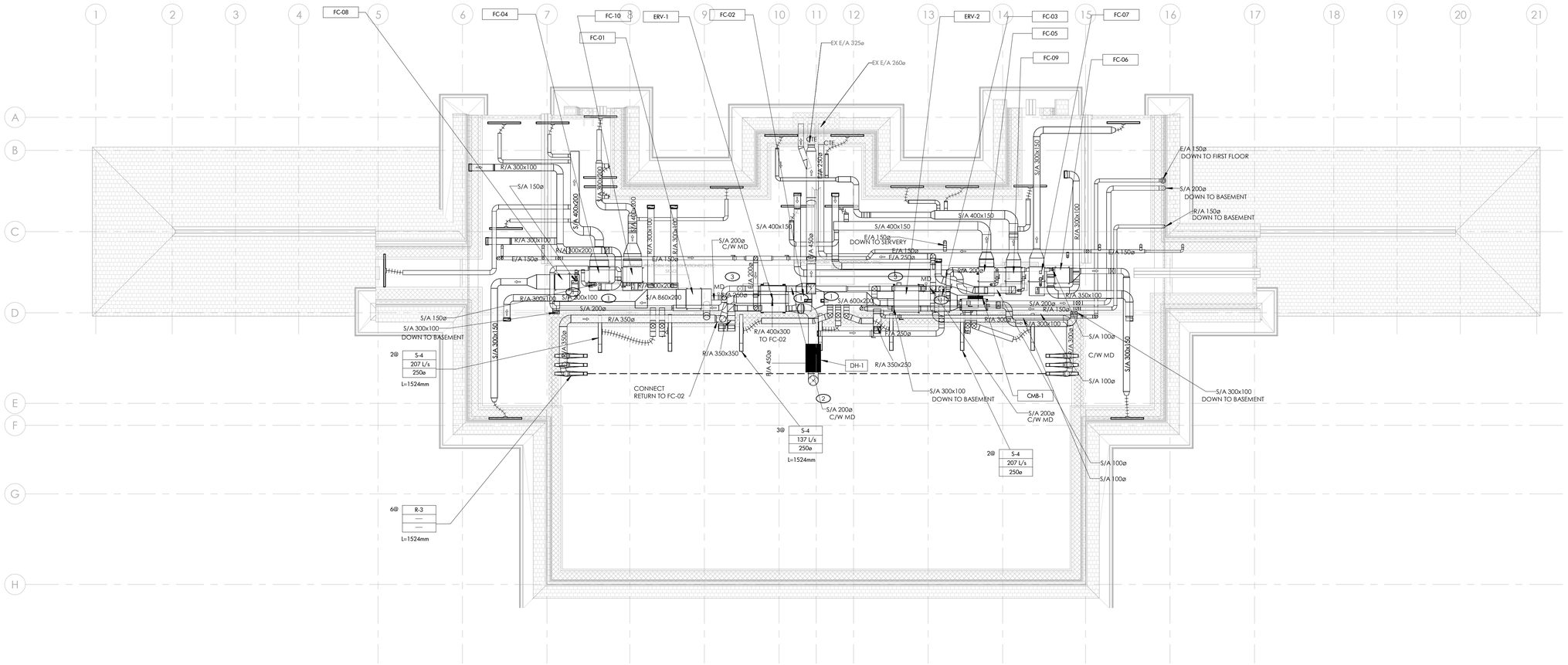
DRAWING NOTES:

1. RETURN GRILLE THROUGH FLOOR OF ATTIC PLENUM. PROVIDE ACOUSTICALLY LINED RETURN BOOT AS PER DETAIL.
2. FRESH AIR DUCT TO ROOF GRAVITY VENTILATOR IN EXISTING OPENING. REFER TO M3.20 FOR SECTION.
3. ELECTRIC DUCT HEATER TO BE INSTALLED ON ERV SUPPLY AIR.

GENERAL NOTES:

1. FRESH AIR & RETURN AIR DUCTS TO BE DUCTED TO PLENUM AT INTAKE OF FAN COIL. (typ)
2. RUN DUCTS AT HIGH LEVEL.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



Rev.#	Description	Date
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375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

ATTIC LEVEL PROPOSED HVAC PLAN - PHASE 1

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

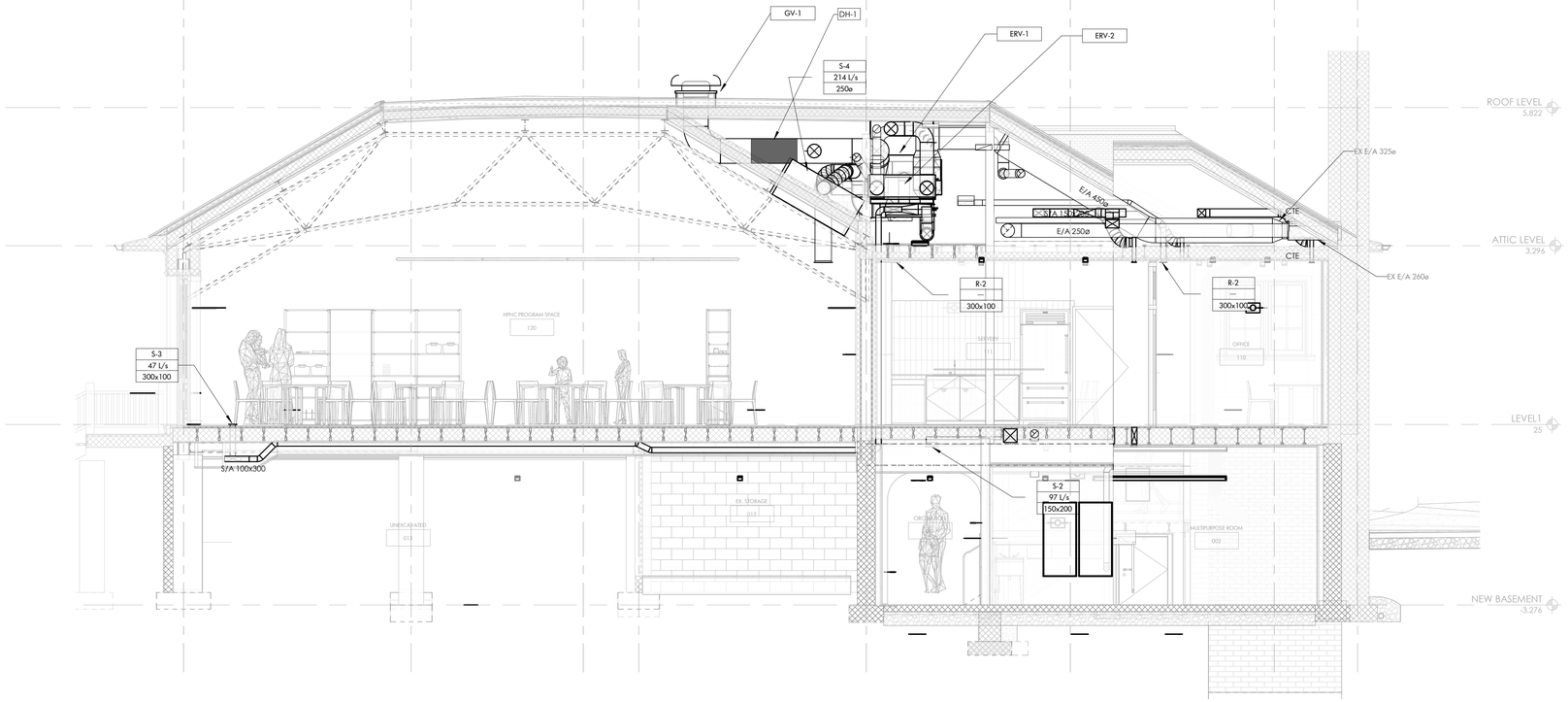
M3.12

1 / M3.12 ATTIC LEVEL PROPOSED HVAC PLAN - PHASE 1
1 : 100

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

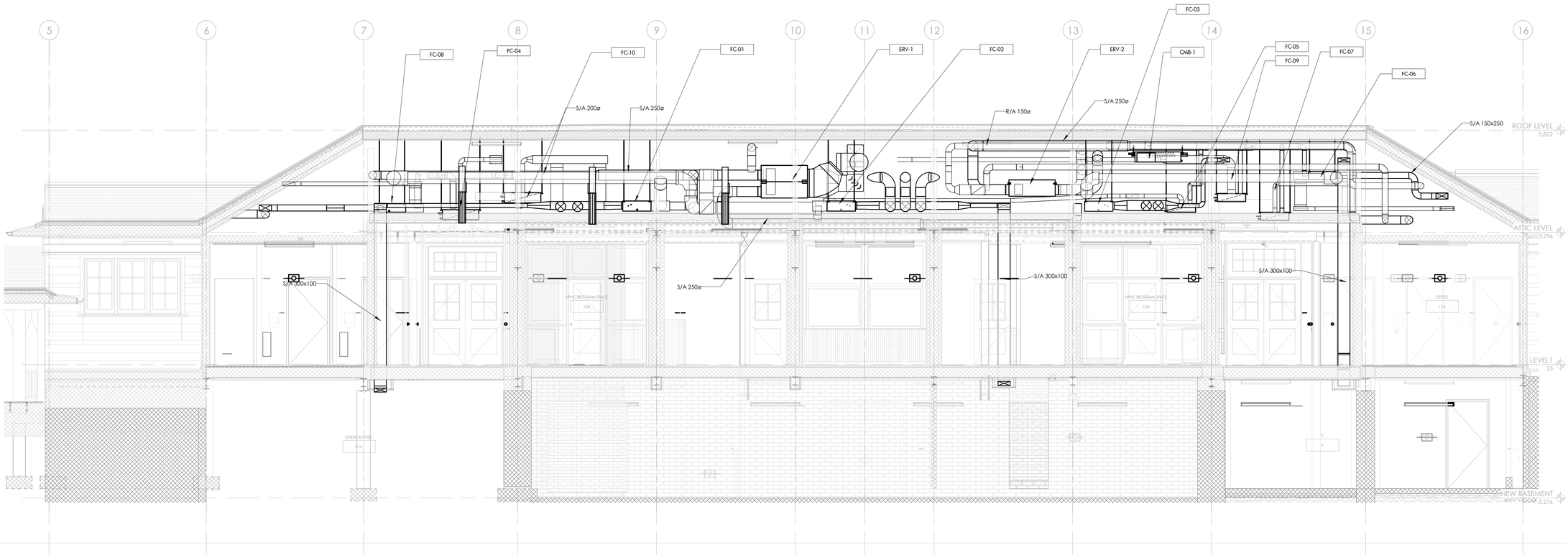
A-A M3.20 HVAC SECTION A-A

1 : 50



B-B M3.20 HVAC SECTION B-B

1 : 50



Rev.#	Description	Date
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3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
HVAC SECTION

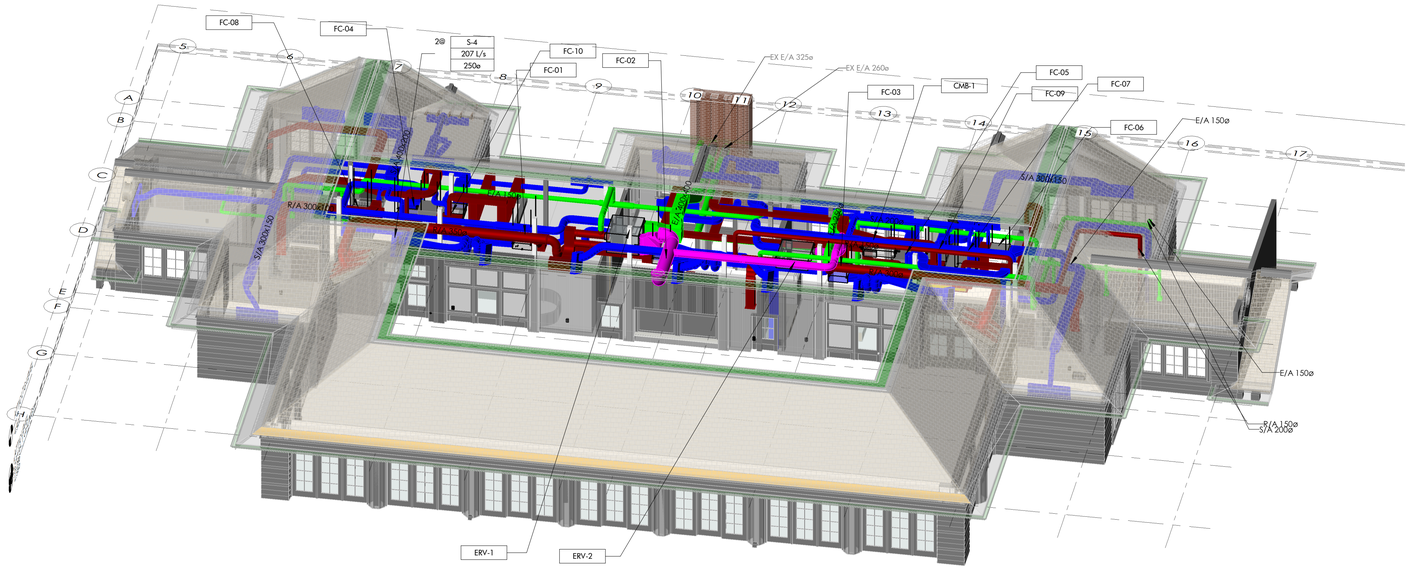
Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/21
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

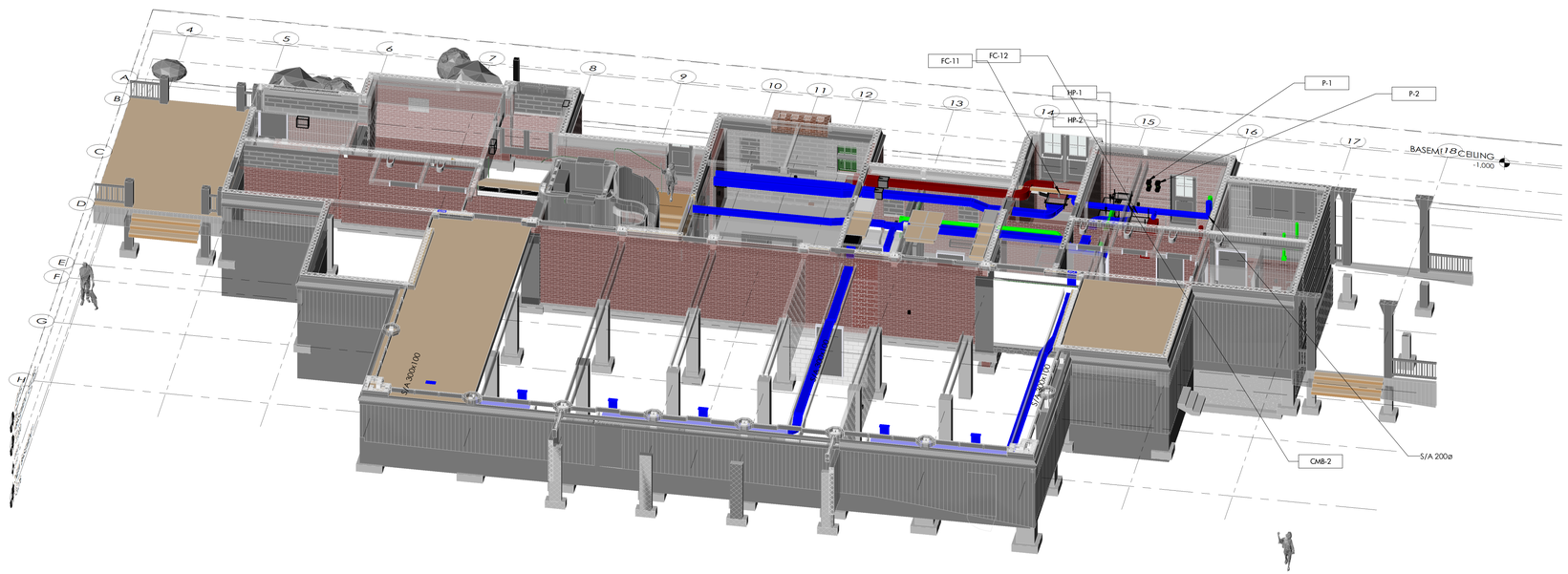
Drawing No.:

M3.20

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 M3.50 ATTIC & LEVEL 1 3D HVAC ISO 3D VIEW



2 M3.50 BASEMENT 3D HVAC ISO 3D VIEW

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
1	ISSUED FOR COORDINATION	2024/01/11

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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
HVAC ISO 3D VIEW

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

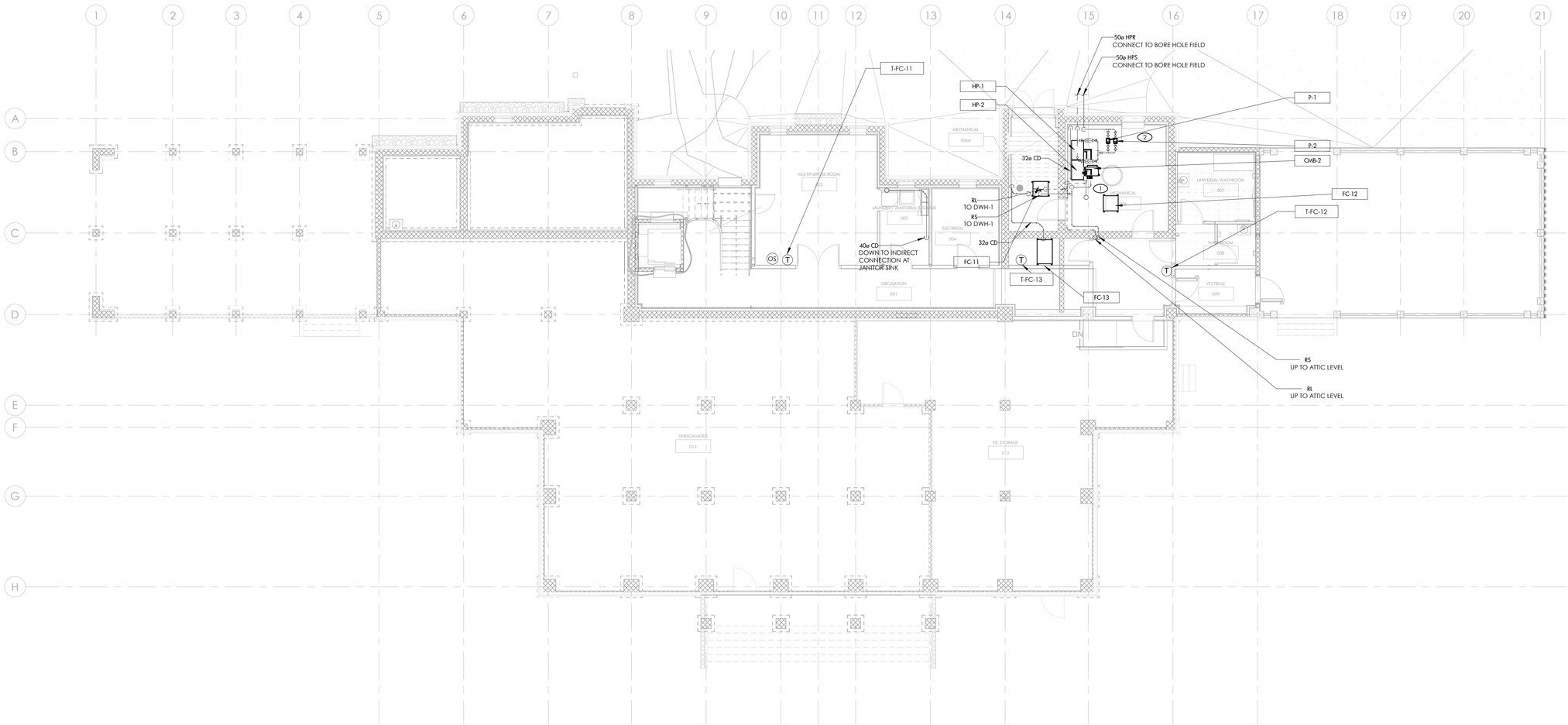
NORTH ARROW

Drawing No.:
M3.50

DRAWING NOTES:

1. SEE MECHANICAL DETAILS M5.01, FOR REFRIGERANT CONNECTION PIPING SIZE AND LENGTH.
2. SEE MECHANICAL DETAILS M5.01, FOR HYDRONIC CONNECTION PIPING.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



1 / M4.10 BASEMENT PROPOSED HYDRONIC PLAN - PHASE 1
1 : 100

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

BASEMENT PROPOSED HYDRONIC PLAN - PHASE 1

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

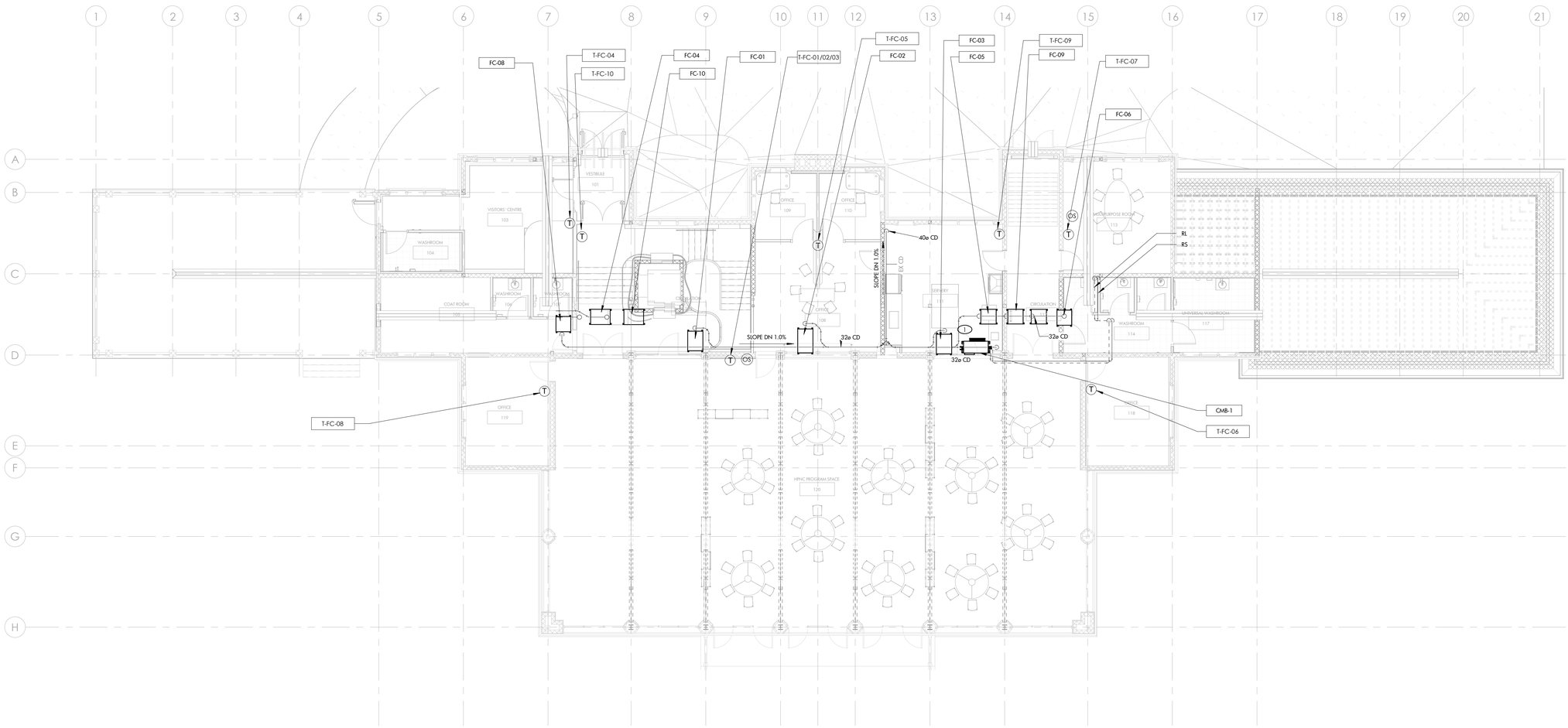
Drawing No.:

M4.10

DRAWING NOTES:

(1) SEE MECHANICAL DETAILS M5.01, FOR REFRIGERANT CONNECTION PIPING SIZE AND LENGTH.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



Rev.#	Description	Date
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

LEVEL 1 PROPOSED HYDRONIC PLAN - PHASE 1

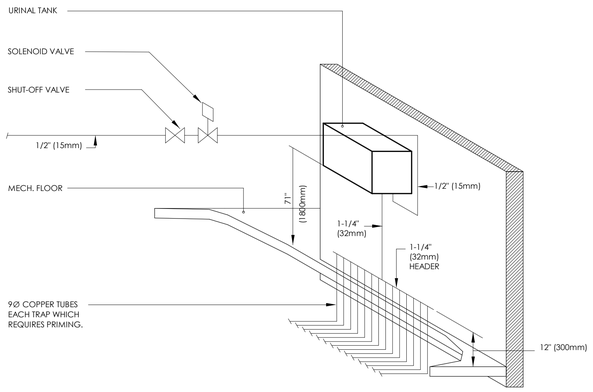
Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

NORTH ARROW

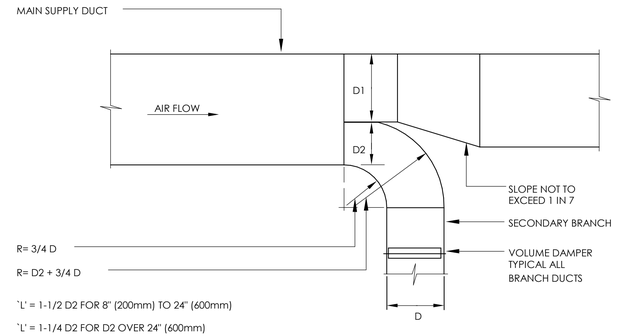
Drawing No.:

M4.11

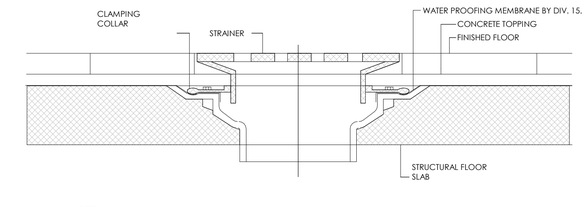
2 M4.11 LEVEL 1 PROPOSED HYDRONIC PLAN - PHASE 1
1 : 100



1 DETAIL OF TRAP SEAL PRIMER SCHEMATIC
M5.00 N.T.S.

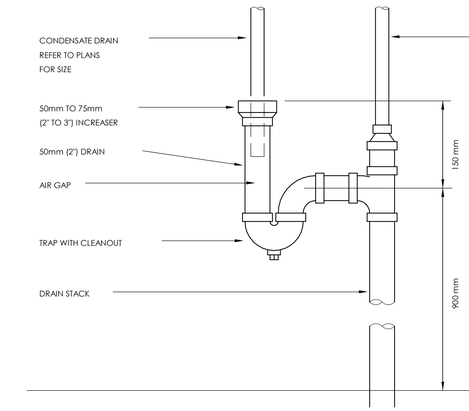


2 DETAIL OF FULL RADIUS ELBOW BRANCH TAKE-OFF
M5.00 N.T.S.

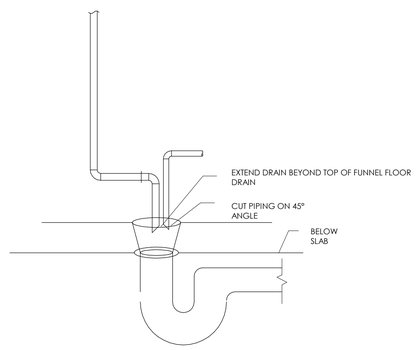


NOTES
1. FOR INSTALLATION OF FIRESTOPPING REFER TO ARCHITECTURAL DRAWINGS.

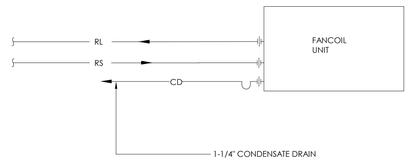
3 DETAIL OF FLOOR DRAIN DETAIL
M5.00 N.T.S.



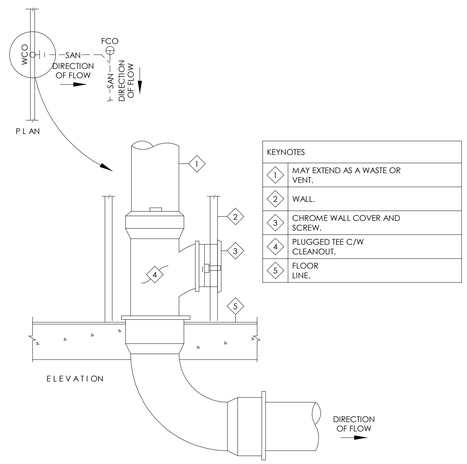
4 DETAIL OF CONDENSATE DRAIN WITH TRAP & VENT
M5.00 N.T.S.



5 FUNNEL FLOOR DRAIN MODIFICATION DETAIL
M5.00 N.T.S.



6 DETAIL OF REFRIGERANT FAN COIL UNIT PIPING
M5.00 N.T.S.



7 DETAIL OF WALL CLEANOUT
M5.00 N.T.S.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

Rev.#	Description	Date
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Seals

375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

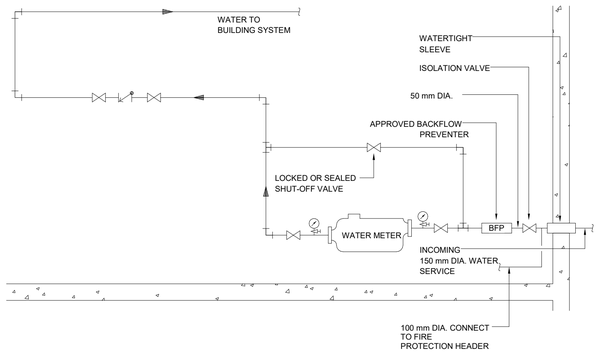
Drawing Name:
MECHANICAL DETAILS

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: C.S.
Reviewed By: F.B.

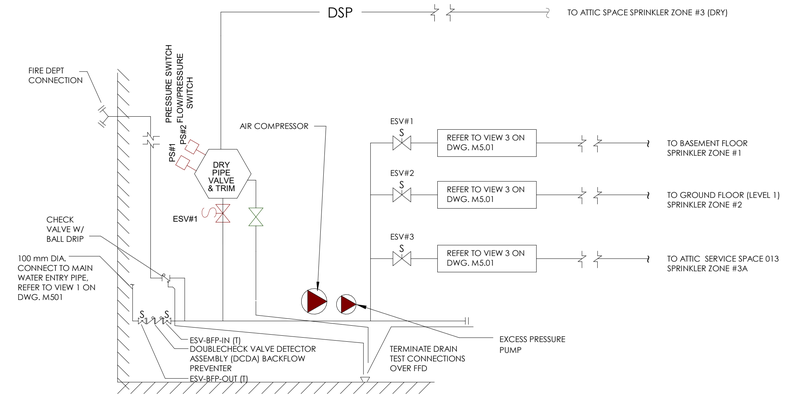
NORTH ARROW

Drawing No.:
M5.00

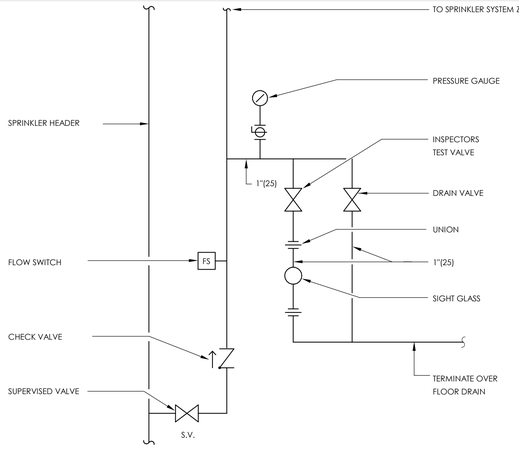
NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION



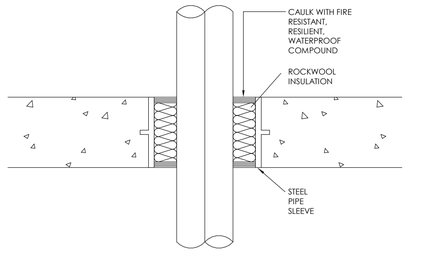
1 M5.01 DETAIL OF WATER ENTRY FLOW DIAGRAM
N.T.S.



2 M5.01 DETAIL OF FIRE PROTECTION SCHEMATIC
N.T.S.

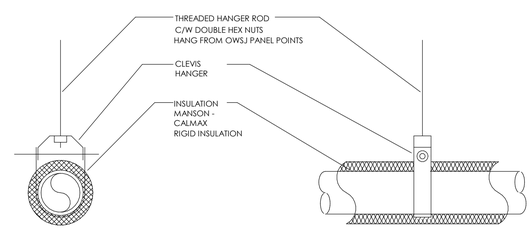


3 M5.01 DETAIL OF SPRINKLER ZONE VALVES
N.T.S.



FIRE RATED PIPE SLEEVE

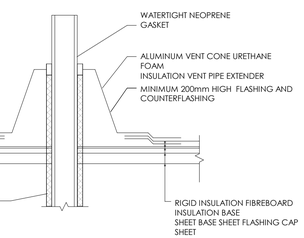
4 M5.01 DETAIL OF FIRE RATED PIPE SLEEVE
N.T.S.



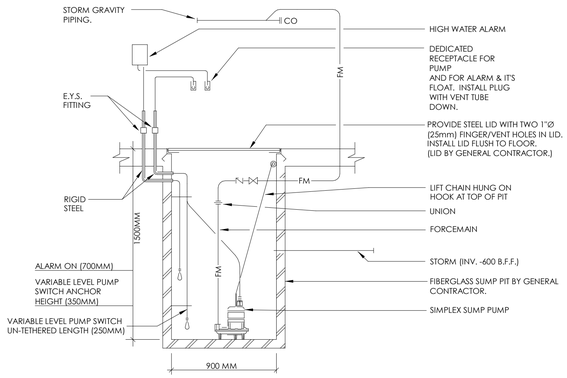
PIPE SIZE	UP TO 2"	2 1/2"-3"	4"	6"
ROD SIZE	3/8"Ø	1/2"Ø	5/8"Ø	3/4"Ø

PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
MAX. SPACING	7'2"	8'4"	8'4"	10'8"	10'8"	12'0"	12'0"	14'4"	16'8"	20'4"

5 M5.01 DETAIL OF PIPE HANGER
N.T.S.



6 M5.01 DETAIL OF PLUMBING VENT
N.T.S.



7 M5.01 DETAIL OF SUMP PIT
N.T.S.

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:

MECHANICAL DETIALS

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	Author
Reviewed By:	Checker

NORTH ARROW

Drawing No.:

M5.01

Heat Pump and Glycol Heating Pumps(typical of 2)

Heat Pump Boiler System - Run Conditions:
The boiler system shall run subject to its own internal safeties and controls. The boiler system should run continuously.

Two Lead/Lag Heat pump Loop Water Temperature Control:
The BAS shall maintain the Glycol heating pump to run continuously on lead/lag manner.
- The lead pump shall run first. The pumps shall be alternate each week.
- On failure of the lead pump, the lag pump shall run and the lead pump shall turn off.

The BAS shall measure the loop water supply temperature and Modulate the heat pump in sequence to maintain setpoints. The two heat pumps shall run subject to their own internal safeties and controls. The two heat pumps shall operate in a lead/lag fashion.
- The lead heat pumps shall run first.
- On failure of the lead heat pumps, the lag boiler shall run and the lead heat pumps shall turn off.
- On dropping loop water supply temperature, the lag heat pumps shall modulate and run in unison with the lead heat pumps to maintain loop temperature setpoints.

The designated lead heat pumps shall rotate upon one of the following conditions: (user selectable):
- manually through a software switch
- if pump runtime (adj.) is exceeded
- daily
- weekly
- monthly

The following setpoints are recommended values. All setpoints shall be field adjusted during the commissioning period to meet the requirements of actual field conditions.

The heat pumps and glycol heating pump shall run to maintain setpoints as follows:

Alarms shall be provided as follows:
- Heat Pump 1
- Failure: Commanded on but the status is off.
- Running in Hand: Commanded off but the status is on.
- Runtime Exceeded: Status runtime exceeds a user definable limit.

- Heat Pump 2
- Failure: Commanded on but the status is off.
- Running in Hand: Commanded off but the status is on.
- Runtime Exceeded: Status runtime exceeds a user definable limit.

- Lead Heat Pump Failure: The lead heat pump is in failure and the standby Heat Pump is on.
- Low Heat Pump Supply Temp: If the Heat Pump supply temperature is less than 120°F (adj.).

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Hot Water Return Temp	x								x		x
Hot Water Supply Temp	x								x		x
HP 1 Status			x						x		x
HP 2 Status			x						x		x
HP 1 Enable				x							x
Heating 1 Mod		x									x
HP 1 Alarm			x							x	x
HP 2 Enable				x							x
Heating 2 Mod		x									x
HP 2 Alarm			x							x	x
HP 1 Running in Hand										x	
HP 1 Runtime Exceeded										x	
HP 2 Running in Hand										x	
HP 2 Runtime Exceeded										x	
Lead HP Failure										x	
Low HP Supply Temp										x	
Totals	**2**	**2**	**4**	**2**	**0**	**0**	**0**	**0**	**4**	**8**	**12**
Total Hardware (10)									**Total Software (12)**		

Refer to detial 3 on **M5.10** for schematic

1 M5.02 HEAT PUMP & GLYCOL HEATING PUMPS CONTROL SCHEMATIC
N.T.S.

Heat Pump Recirc Pump(P-3) (typical of 1)

Hot Water Pump Run Conditions:
The hot water pumps shall be enabled whenever DHW Tank temperature drops below setpoint.
When the Pump P-3 is enabled, DHW OEM Controller shall enable the DHW to maintain required setpoint of DHW Tank temperature.

To prevent short cycling, the pump shall run for a minimum time and be off for a minimum time (both user adjustable).
The hot water pump shall have:
- A user adjustable delay on start.
- AND a user adjustable delay on stop.

The delay times shall be set appropriately to allow for orderly hot water system start-up, shutdown and sequencing.

Alarms shall be provided as follows:
- Hot Water Pump Failure: Commanded on, but the status is off.
- Hot Water Pump Running in Hand: Commanded off, but the status is on.
- Hot Water Pump Runtime Exceeded: Status runtime exceeds a user definable limit

Hot Water Temperature Monitoring:
The following temperatures shall be monitored:
- Hot water supply.
- Hot water return.
- Hot Water Tank Temp

Alarms shall be provided as follows:
- High Hot Water Supply Temp: If the hot water supply temperature is greater than 200°F (adj.).
- Low Hot Water Supply Temp: If the hot water supply temperature is less than 100°F (adj.).

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Hot Water Return Temp	x								x		x
Hot Water Supply Temp	x								x		x
Pump P-3 Status			x						x		x
Pump P-3 Start/Stop				x					x		x
DHW Tank Temp	x									x	
Hot Water Pump Failure										x	
Hot Water Pump in Hand										x	
Hot Water Pump Runtime Exceeded										x	
Low Hot Water Supply Temp										x	
Totals	**3**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**4**	**5**	**4**
Total Hardware (5)									**Total Software (9)**		

Refer to detial 2 on **M5.10** for schematic

2 M5.02 DOMESTIC WATER BOOSTER RECIRC PUMP CONTROL SCHEMATIC
N.T.S.

VRF

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:
- Occupied Mode: The unit shall maintain
- A 24°C (adj.) cooling setpoint
- A 21°C (adj.) heating setpoint

- Unoccupied Mode (night setback): The unit shall maintain
- A 29.5°C (adj.) cooling setpoint.
- A 13°C (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Demand Limiting - Zone Setpoint Optimization:
To lower power consumption, the zone setpoints shall automatically relax when the facility power consumption exceeds definable thresholds. The amount of relaxation shall be individually configurable for each zone. The zone setpoints shall automatically return to their previous settings when the facility power consumption drops below the thresholds.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Freeze Protection:
The unit shall shut down and generate an alarm upon receiving a freezestat status.

Smoke Detection:
The unit shall shut down and generate an alarm upon receiving a smoke detector status.

Fan:
The fan shall run anytime the unit is commanded to run, unless shutdown on safeties.

Heating and Cooling - 1 Compressor Stage:
The controller shall measure the zone temperature and cycle the compressor to maintain its setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime. The compressor shall run subject to its own internal safeties and controls.

The heating shall be enabled whenever:
- Outside air temperature is less than 18.5°C (adj.).
- AND the fan is on.
- AND the reversing valve is in heat mode.

The cooling shall be enabled whenever:
- Outside air temperature is greater than 15.5°C (adj.).
- AND the fan is on.
- AND the reversing valve is in cool mode.

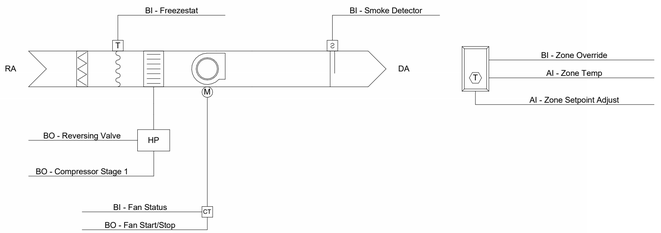
On mode change, the compressor shall be disabled and remain off until after the reversing valve has changed position..

Alarms shall be provided as follows:
- Compressor Runtime Exceeded: The compressor runtime exceeds a user definable limit (adj.).

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:
- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.
- Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Fan Status			x						x		x
Freezestat			x						x	x	x
Smoke Detector			x						x	x	x
Zone Override			x						x		x
Compressor Stage 1				x					x		x
Fan Start/Stop				x					x		x
Reversing Valve				x					x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
Schedule								x			
Compressor Runtime Exceeded										x	
Fan Failure										x	
Fan in Hand										x	
Fan Runtime Exceeded										x	
High Zone Temp										x	
Low Zone Temp										x	
Totals	**2**	**0**	**4**	**3**	**2**	**0**	**0**	**1**	**10**	**8**	**11**
Total Hardware (9)									**Total Software (21)**		



3 M5.02 VRF FAN COIL CONTROL SCHEMATIC
N.T.S.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
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375 COLBORNE LODGE DR, TORONTO, ON M6R 2Z3

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
MECHANICAL CONTROLS

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: Author
Reviewed By: Checker
NORTH ARROW

Drawing No.:
M5.02

ERV (typical of 2)

ERV Run Conditions:
BAS shall enable/disable ERV on a time-of-day schedule, initially set to match. Upon Enable EAD opens to allow indoor exhaust air to flow through the ERV core and FAD opens to allow outdoor air to flow into the ERV for heat exchange.

ERV Control:
Outdoor air enters the ERV system and is conditioned by the exhaust air in the heat recovery core.
Exhaust Air Flow: Indoor exhaust air flows through the ERV system, transferring heat and moisture to the incoming fresh air.
During winter (when heating is required), the ERV should transfer heat from the exhaust air to the incoming cold outdoor air.
During summer (when cooling is required), the ERV should transfer heat from the incoming warm air to the exhaust air to help cool the incoming air.

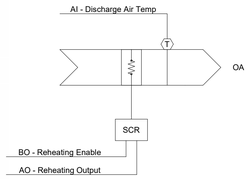
Duct Heater (typical of 3) Operation (Winter/Cold Weather Mode):
The BAS monitors the temperature of the incoming fresh air via a fresh air temperature sensor. If the fresh air temperature falls below the setpoint (e.g., -12°C / 10°F), the duct heater is activated to raise the temperature of the incoming air to the desired setpoint (e.g., -10°C / 14°F).
If the temperature of the incoming fresh air is too low, the duct heater is energized, increasing the temperature of the fresh air before it enters the building. The BMS will continuously monitor the air temperature to ensure that the temperature does not exceed the setpoint.
The heater is deactivated once the incoming fresh air temperature reaches or exceeds the setpoint.

Ventilation Mode:
The system continually provides fresh air intake based on scheduled occupancy level ventilation requirements. The exhaust air damper adjusts based on the required airflow to meet air flow indicated.
Zone motorized dampers will have a minimum setting of 20% open during occupied hours (adj.).
Corresponding occupancy sensors shall open associated zone motorized dampers fully upon occupied signal.

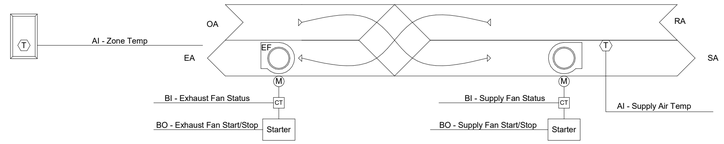
Alarms shall be provided as follows:

- Fan status is received, and the command is off (5-minute delay).
- Fan status is not received, and the command is on (5-minute delay).
- The supply air temperature drops below 5°C (1 minute delay).
- The supply air temperature rises above 35°C (5 minute delay).
- The supply air humidity is above 80% RH (30 minute delay).

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Unit Enable				x					x		x
Unit Status			x							x	x
Outdoor Air Temp	x								x		x
Supply Air Temp	x									x	x
Supply Air Humidity	x									x	x
Exhaust Air Temp	x								x		x
Exhaust Air Humidity	x								x		x
EAD Position			x							x	x
OAD Position			x							x	x
EDH Enable				x					x		x
EDH Status			1	1						x	x
MD-1 to MD-5 Position			5								x
MD-1 to MD-5 Command				5						x	x
OS-1 to OS-3 Status			3								
Totals	**5**	**0**	**12**	**8**	**0**	**0**	**0**	**0**	**5**	**7**	**13**
Total Hardware (25)					**Total Software (12)**						



Electric Duct Heater (typical of 1)



Energy Recovery Ventilator (typical of 2)

Motorized Damper (typical of 5)

1 / M5.03 ERV CONTROL SCHEMATIC
N.T.S.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

Rev.#	Description	Date
5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TENDER REVIEW	2025/02/21
3	ISSUED FOR COSTING	2024/02/08
2	ISSUED FOR PERMIT	2024/01/31
1	ISSUED FOR COORDINATION	2024/01/11

Consultants

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Seals

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HIGH PARK NATURE AND VISITOR'S CENTER

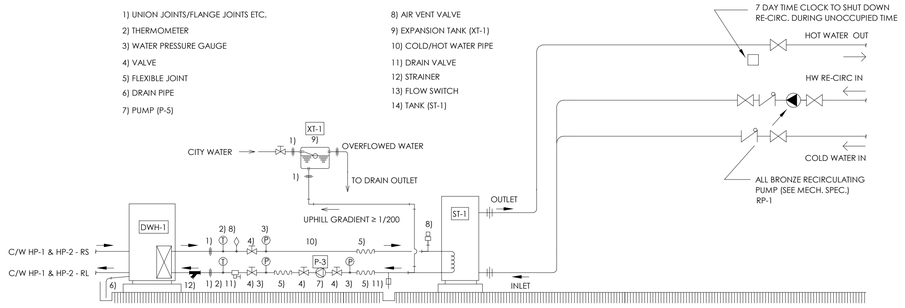
Drawing Name:
MECHANICAL CONTROLS

Project Number: 22-142
Drawing Scale: As Indicated
Date: 2025/02/25
File Name:
Drawn By: Author
Reviewed By: Checker
NORTH ARROW

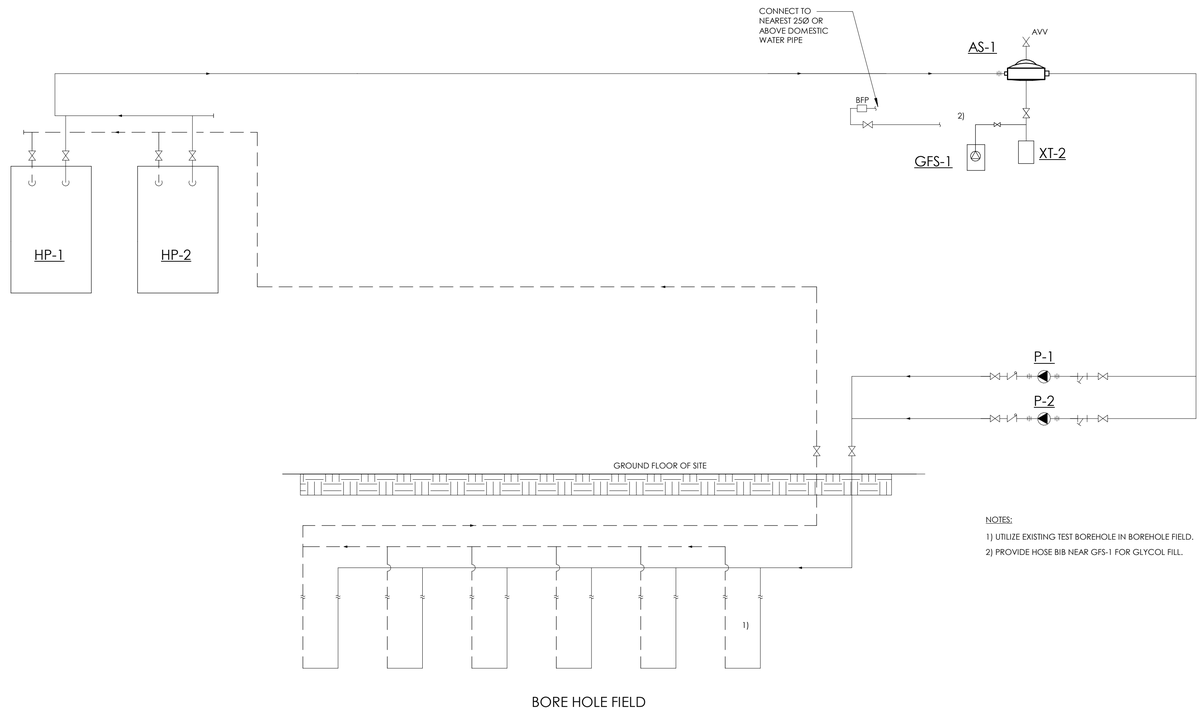
Drawing No.:
M5.03

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

1) UNION JOINTS/FLANGE JOINTS ETC.
2) THERMOMETER
3) WATER PRESSURE GAUGE
4) VALVE
5) FLEXIBLE JOINT
6) DRAIN PIPE
7) PUMP (P-5)
8) AIR VENT VALVE
9) EXPANSION TANK (XT-1)
10) COLD/HOT WATER PIPE
11) DRAIN VALVE
12) STRAINER
13) FLOW SWITCH
14) TANK (ST-1)



1 DETAIL OF HEAT PUMP - WATER HEATER C/W RE-CIRC. SCHEMATIC
M5.10/ N.T.S.



NOTES:
1) UTILIZE EXISTING TEST BOREHOLE IN BOREHOLE FIELD.
2) PROVIDE HOSE BIB NEAR GFS-1 FOR GLYCOL FILL.

BORE HOLE FIELD

2 DETAIL OF HP-1 & HP-2 HYDRONIC PIPE SCHEMATIC
M5.10/ N.T.S.

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HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
MECHANICAL SCHEMATICS

Project Number:	22-142
Drawing Scale:	As Indicated
Date:	2025/02/25
File Name:	
Drawn By:	C.S.
Reviewed By:	F.B.

NORTH ARROW

Drawing No.:

M5.10

ENERGY RECOVERY VENTILATOR SCHEDULE

GENERAL DESCRIPTION														
TAG #	LOCATION	AREA SERVED (ROOM No.)	CAPACITY(L/S)	ENTERING AIR TEMP. (°C)	TEMPERATURE T RECOVERY EFFICIENCY	SUMMER PERFORMANCE	WINTER PERFORMANCE	FILTER	ESP SUPPLY/EXHAUST (Pa)	V/PH/HZ	MCA (A)	MOCP (A)	WEIGHT (Kg)	MANUFACTURER & MODEL (BASIS OF DESIGN: MITSUBISHI)
ERV-1	ATTIC LEVEL	-	564	-10 TO 40	67% TO 81%	50%	64%	MERV 7	300	208/1/60	10.38	15	114	MITSUBISHI MODEL: LGH-F120ERVX2-E
ERV-2	ATTIC LEVEL	-	329	-10 TO 40	63% To 81%	50%	64%	MERV 7	300	208/1/60	4.15	15	56	MITSUBISHI MODEL: LGH-F600RVX2-E

HEAT PUMP UNIT SCHEDULE

TAG	LOCATION	COOLING (KW)	HEATING (kW)	AMBIENT TEMP (°C)	V/PH/HZ	MCA (A)	MOCP (A)	WEIGHT (Kg)	MANUFACTURER & MODEL (BASIS OF DESIGN: MITSUBISHI)
HP-1	MECH ROOM 006	42.4	46.9	20	208/3/60	35	60	217	MITSUBISHI MODEL:PQRY-P144TLMU-A1
HP-2	MECH ROOM 006	42.4	46.9	20	208/3/60	35	60	217	MITSUBISHI MODEL:PQRY-P144TLMU-A1

FAN COIL SCHEDULE

TAG	LOCATION	SYSTEM SERVED	AIR FLOW (L/S)	FRESH AIR (L/S)	TOTAL COOLING COIL LOAD (kW)	SEN. COOLING COIL LOAD (kW)	HEATING COIL LOAD(KW)	FILTER	ELECTRICAL (V/PH/HZ)	MCP/MOCP (A)	MANUFACTURER & MODEL (BASIS OF DESIGN: MITSUBISHI)
FC-01	ATTIC LEVEL	HPNC SPACE 024	508	208	10.07	7.1	10.31	MERV 8	208/1/60	4.25/15	MITSUBISHI MODEL:PEFY-P36NMAU-E4
FC-02	ATTIC LEVEL	HPNC SPACE 024	508	208	10.07	7.1	10.31	MERV 8	208/1/60	4.25/15	MITSUBISHI MODEL:PEFY-P36NMAU-E4
FC-03	ATTIC LEVEL	HPNC SPACE 024	508	208	10.07	7.1	10.31	MERV 8	208/1/60	4.25/15	MITSUBISHI MODEL:PEFY-P36NMAU-E4
FC-04	ATTIC LEVEL	VISITOR 103 & COAT 105	233	43	4.18	3.4	4.41	MERV 8	208/1/60	2.88/15	MITSUBISHI MODEL:PEFY-P15NMAU-E3
FC-05	ATTIC LEVEL	OFFICE 108	233	22	4.18	3.4	4.41	MERV 8	208/1/60	2.88/15	MITSUBISHI MODEL:PEFY-P15NMAU-E4
FC-06	ATTIC LEVEL	OFFICE 118	142	8	2.19	1.8	2.29	MERV 8	208/1/60	1.75 / 15	MITSUBISHI MODEL:PEFY-P08NMAU-E4
FC-07	ATTIC LEVEL	MULTI ROOM 113	142	8	2.19	1.6	2.29	MERV 8	208/1/60	1.05 / 15	MITSUBISHI MODEL:PEFY-P08NMAU-E4
FC-08	ATTIC LEVEL	OFFICE 120	142	8	2.19	2.0	2.29	MERV 8	208/1/60	1.75/15	MITSUBISHI MODEL:PEFY-P08NMAU-E4
FC-09	ATTIC LEVEL	SERVERY 111 CIRC 112 OFFICE 109 & 110	233	52	4.18	3.2	4.41	MERV 8	208/1/60	2.88/15	MITSUBISHI MODEL:PEFY-P15NMAU-E4
FC-10	ATTIC LEVEL	VEST 101 CIRC 102	175	16	3.33	1.6	3.53	MERV 8	208/1/60	1.75/15	MITSUBISHI MODEL:PEFY-P12NMAU-E4
FC-11	NEW BASEMENT	MULTI ROOM 002	142	94	2.19	1.3	2.29	MERV 8	208/1/60	1.05/15	MITSUBISHI MODEL:PEFY-P08NMAU-E4
FC-12	NEW BASEMENT	CIRC 001	292	31	6.65	1.9	6.96	MERV 8	208/1/60	2.88/15	MITSUBISHI MODEL:PEFY-P24NMAU-E4
FC-13	NEW BASEMENT	IT/ROOM	417	0	6.5	6.5	0.00	MERV 8	208/1/60	2.88/15	MITSUBISHI MODEL:PEFY-24NMAU-E4

GRILLES & DIFFUSERS SCHEDULE

TAG #	DIFFUSER/GRILLE SIZE	APPLICATION / TYPE	MANUFACTURER AND MODEL (BASIS OF DESIGN : EH. PRICE)
DG	AS INDICATED	TRANSFER GRILLE	EH. PRICE MODEL:ATG2 SERIES,DOOR TRANSFER GRILLE.
E-1	AS INDICATED	CEILING EXHAUST	EH. PRICE MODEL: 630 SERIES, EXHAUST GRILLE, WHITE POWDER COAT FINISH
R-1	AS INDICATED	CEILING RETURN	EH. PRICE MODEL: 80 SERIES,RETURN GRILLE, WHITE POWDER COAT FINISH
R-2	AS INDICATED	RETURN LINEAR W/ CUSTOM PLENUM	EH. PRICE MODEL: SDR 75 SERIES, C/W SDB PLENUM, HEIGHT = 700 mm 3-SLOT, SURFACE MOUNT WITH CONCEALED PLASTER FRAME,OPEN AT PLENUM TOP.
R-3	AS INDICATED	RETURN LINEAR W/ CUSTOM PLENUM	EH. PRICE MODEL SDR 75 C/W SDB PLENUM, HEIGHT = 425 mm, 4 SLOTS, 1524 MM (60") LENGTH, OPEN AT PLENUM TOP.
R-4	AS INDICATED	RETURN SIDEWALL	EH. PRICE MODEL: 630, 20MM BLADE SPACING, 0 DEGREE BLADE ANGLE, BLADES PARRALLEL TO SHORT DIMENSION
S-1	AS INDICATED	SUPPLY LINEAR W/ CUSTOM PLENUM	EH. PRICE MODEL SDS75 C/W SDA PLENUM, HEIGHT = 425 mm, 1 SLOTS, 1524 MM (60") LENGTH & VOLUME CONTROL DAMPER.
S-2	AS INDICATED	SUPPLY SIDEWALL	EH. PRICE MODEL: 620, 20MM BLADE SPACING, BLADES ANGLED 45 DEGREES DOWNWARD, BLADES PARRALLEL TO LONG DIMENSION, ALUMINUM CONSTRUCTION
S-3	AS INDICATED	FLOOR AIR SUPPLY	EH. PRICE MODEL: LFG SERIES,SIZE 4" CORE 16A, WHITE POWDER FINISH.
S-4	AS INDICATED	SUPPLY LINEAR W/ CUSTOM PLENUM	EH. PRICE MODEL SDS75 C/W SDA PLENUM, HEIGHT = 750 mm, 4 SLOTS, 1524 MM (60") LENGTH & VOLUME CONTROL DAMPER.

PUMP SCHEDULE

GENERAL DESCRIPTION			FLOW (L/s)	FLOW - COOLING MODE (L/s)	FLOW - HEATING MODE (L/s)	HEAD (kPa)	MOTOR RATING(W)	COOLING MODE BHP (W)	HEATING MODE BHP (W)	ELECTRICAL			WEIGHT (KG)	MANUFACTURER & MODEL (BASIS OF DESIGN: BELL & GOSSETT / ARMSTONG)
TAG #	LOCATION	SYSTEM								VOLTAGE	PH	HZ		
P-1	MECH ROOM 006	BOREHOLE FIELD GLYCOL	6.31	3.78	6.31	150	2237	880	1954	208	3	60	37.01	ARMSTRONG MODEL: ENVELOPE CLOSE-COUPLED VERTICAL IN LINE PUMP, SERIES: 4380 1505-003.0
P-2	MECH ROOM 006	BOREHOLE FIELD GLYCOL	6.31	3.78	6.31	150	2237	880	1954	208	3	60	37.01	ARMSTRONG MODEL: ENVELOPE CLOSE-COUPLED VERTICAL IN LINE PUMP, SERIES: 4380 1505-003.0
P-3	MECH ROOM 006A	HEAT PUMP RE-CIRC WATER PUMP	0.32	N/A	N/A	44	246	N/A	N/A	208	1	60	-	ARMSTRONG MODEL: ENVELOPE CLOSE-COUPLED VERTICAL IN LINE PUMP, SERIES: 4380 01 03 - 000.3
RP-1	MECH ROOM 006A	DOMESTIC RE-CIRC WATER PUMP	0.4	N/A	N/A	-	-	880	N/A	115	1	60	-	BELL & GOSSETT MODEL: NBF-36 CIRCULATOR
SP-1	MECH ROOM 006	GROUND WATER DRAINAGE	0.63	N/A	N/A	74.7	3450	N/A	N/A	115	1	60	15	ZOLLER BN151 SUMP PUMP C/W PIGGYBACK VAIABLE LEVEL PUMP SWITCH

DHW WATER HEATER SCHEDULE

GENERAL DESCRIPTION			TYPE	HEATING INPUT (kW)	MCA	VOLTAGE	E.W.T. / L.W.T. (°C)	WEIGHT (Kg)	MANUFACTURER & MODEL (BASIS OF DESIGN: MITSUBISHI)
TAG #	LOCATION	STORAGE (M3)							
DHW-1	MECH ROOM 006A	-	HEAT PUMP	11.7	25	208/1/60	10 / 71	59	MITSUBISHI MODEL: PWFY-P36NMU-E-BU

ELECTRIC HEATER SCHEDULE

TAG #	LOCATION	CAPACITY (KW)	ELECTRICAL	WEIGHT (KG)	MANUFACTURER & MODEL (BASIS OF DESIGN: OUELLET)
EH-1, EH-2	-	1.5	208/1/60	-	OUELLET MODEL# ODL, STANDARD WHITE, 20 Ga SATIN COAT STEEL CABINET, STAINLESS STEEL TUBULAR HEATING ELEMENT WITH ALUMINUM FINS, BUILT-IN THERMOSTAT WITH KNOB CONTROL, FACTORY SUPPLIED DISCONNECT SWITCH.
EH-3 TO EH-13	-	2	208/1/60	-	OUELLET MODEL# OAC, STANDARD WHITE, 18 Ga FRONT COVER, BUILT-IN THERMOSTAT WITH KNOB CONTROL, FACTORY SUPPLIED DISCONNECT SWITCH.

VRF CONNECTABLE BRANCH UNIT SCHEDULE

GENERAL DESCRIPTION		BRANCH No.	ELECTRICAL			AMPS (A)	WEIGHT (Kg)	MANUFACTURER & MODEL (BASIS OF DESIGN: MITSUBISHI)
TAG #	LOCATION		V	PH	HZ			
CMB-1	ATTIC	12	208	1	60	1.57	69	MITSUBISHI MODEL: CMB-P1012NU-JA1
CMB-2	BASEMENT	4	208	1	60	1.57	69	MITSUBISHI MODEL: CMB-P104NU-KB1

LOUVER SCHEDULE

TAG	WxH (mm)	FLOW RATE (L/S)	FREE AREA (M2)	FREE AREA VELOCITY (M/S)	MANUFACTURER & MODEL (BASIS OF DESIGN: EH. PRICE & GREENHECK)
LV	AS INDICATED	AS INDICATED	0.432	2.15	EH PRICE MODEL: DE445M. 100MM DEEP 45° BLADE EXTRUED DRAINABLE LOUVRE

DHW WATER TANK SCHEDULE

TAG	LOCATION	SERVICE TYPE	TANK VOLUME (L)	MIN. COIL LOAD (kW)	CONTINUOUS DELIVERY (L/S)	WEIGHT (Kg)	MANUFACTURER (BASIS OF DESIGN: LOCHINVAR)
ST-1	MECH ROOM 006A	DHW	430	58.6	0.323	525	LOCHINVAR MODEL: SIT-SUB-03 - SIT119.

SERVERY HOOD SCHEDULE

TAG.	LOCATION	HOOD			POWER (W)	FLA	ELECTRICAL (V/PH/Hz)	MANUFACTURER & MODEL (BASIS OF DESIGN: FRIGIDARE)
		FLOW (L/S)	ESP (Pa)	SIZE (MM)				
RH-1	SERVERY 111	52	75	763mm X 473mm X 127mm	485	-	120/1/60	FRIGIDARE MODEL: FHWC3025MW, RECIRCULATING TYPE C/W FILTER, SIZE: 762mm x 473mm x 127mm

AIR SEPERATOR SCHEDULE

TAG	LOCATION	SERVED	REQ. FLOW (L/S)	MAX. VELOCITY (M/S)	CONNECTION SIZE (MM)	WORKING PRESS. (KPa)	WORKING TEMP. (°C)	MANUFACTURER & MODEL (BASIS OF DESIGN : TACO
AS-1	MECH ROOM 006	HHW	2.0	0.9	50	400	12	TACO MODEL: 424 AIR SCOOP
AS-2	MECH ROOM 006	HHW	2.0	0.9	50	400	12	TACO MODEL: 424 AIR SCOOP

GLYCOL SYSTEM FEEDER SCHEDULE

TAG	LOCATION	SERVED	POWER	TANK VOLUME (L)	WEIGHT (KG)	MANUFACTURER & MODEL (BASIS OF DESIGN : AXIOM)
GFS-1	MECH ROOM 006	GEOSOURCE GLYCOL LOOP	120V/1/60	22.7	5.4	AXIOM MF200

ELECTRIC DUCT HEATER

TAG	HEATING (KW)	ELECTRICAL			MANUFACTURER & MODEL (BASIS OF DESIGN: EH PRICE)
		VOLTAGE	PH	HZ	
DH-1	12	208	3	60	MODEL: EH PRICE NEPTRONIC ROUND COLLAR C/W SCR CONTROL

EXPANSION TANK SCHEDULE

TAG	LOCATION	SERVICE TYPE	TANK VOLUME (L)	ACCEPTANCE VOLUME (L)	MANUFACTURER & MODEL (BASIS OF DESIGN: AMTROL / WATTS)
XT-1	MECH ROOM 006A	DOMESTIC WATER	30	20	WATTS MODEL: DETA 20, ASME APPROVED STEEL SHELL
XT-2	MECH ROOM 006	HYDRONIC	63	43	AMTROL MODEL: AX-15V-DD DIAPHRAGM DEEP DRAWN EXPANSION TANK, ASME APPROVED STEEL SHELL, HEAVY DUTY BUTYL DIAPHRAGM, RED OXIDE PRIMER FINISH, CONFORMS TO ASME STANDARDS
XT-3	MECH ROOM 006	HYDRONIC	63	43	AMTROL MODEL: AX-15V-DD DIAPHRAGM DEEP DRAWN EXPANSION TANK, ASME APPROVED STEEL SHELL, HEAVY DUTY BUTYL DIAPHRAGM, RED OXIDE PRIMER FINISH, CONFORMS TO ASME STANDARDS

PLUMBING FIXTURE CONNECTION SCHEDULE

REFER	DESCRIPTION	SANITARY	SANITARY VENT	DHWS	DCWS	TEMPERED
W-1	BARRIER FREE/NON BARRIER FREE FLOOR MOUNTED, FLUSH VALVE WATERCLOSET	75Ø (3"Ø)	38Ø (1-1/2"Ø)	-	25Ø (1"Ø)	-
L-1	BARRIER FREE/NON BARRIER FREE WALL HUNG LAVATORY	32Ø (1-1/4"Ø)	32Ø (1-1/4"Ø)	13Ø [1] (1/2"Ø)	13Ø [1] (1/2"Ø)	19Ø (3/4"Ø)
MV	MIXING VALVE	-	-	13Ø (1/2"Ø)	13Ø (1/2"Ø)	19Ø (3/4"Ø)
S-1	SINGLE BASIN SINK	38Ø (1-1/2"Ø)	32Ø (1-1/4"Ø)	13Ø (1/2"Ø)	13Ø (1/2"Ø)	-
S-2	DOUBLE BASIN SINK	38Ø (1-1/2"Ø)	32Ø (1-1/4"Ø)	13Ø (1/2"Ø)	13Ø (1/2"Ø)	-
BF-1	BOTTLE FILLER	38Ø (1-1/2"Ø)	-	-	13Ø (1/2"Ø)	-
JS-1	JANITOR'S SINK	75Ø (3"Ø)	38Ø (1-1/2"Ø)	13Ø (1/2"Ø)	13Ø (1/2"Ø)	-
FD, FFD, HD, TD	FLOOR DRAIN, FUNNEL FLOOR DRAIN, HUB DRAIN & TRENCH DRAIN	75Ø (3"Ø)	38Ø (1-1/2"Ø)	-	9Ø (3/8"Ø)	-
TSP	TRAP SEAL PRIMER	-	-	-	9Ø [2] (3/8"Ø)	-
NFHB	NON FREEZE HOSE BIBB	-	-	-	19Ø (3/4"Ø)	-

NOTES:
1 - TO MIXING VALVE. 19Ø (3/4"Ø) TEMPERED WATER TO FIXTURE
2 - ONE PER FLOOR DRAIN, FUNNEL FLOOR DRAIN AND HUB DRAIN

SEDIMENT INTERCEPTOR SCHEDULE

TAG	FLOW RATE (L/S)	CONNECTION SIZE (MM)	DIMENSIONS LxWxH (MM)	MANUFACTURER & MODEL
SI-1	0.63	100	530x505x521	ZURN SI875-OX-4: SEDIMENT INTERCEPTOR C/W EXTENSION AS REQUIRED

GRAVITY VENTILATOR SCHEDULE

TAG	LOCATION	CONNECTION SIZE (MM)	FLOW RATE (L/s)	MANUFACTURER & MODEL (BASIS OF DESIGN: GREENHECK)
SI-1	MECHANICAL ROOM 006	100	4.73	ZURN SI875-HDC-4: SEDIMENT INTERCEPTOR

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HIGH PARK NATURE AND VISITOR'S CENTER

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MECHANICAL EQUIPMENT SCHEDULE

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